University of Toronto
ECO 2400F1
Econometrics I (Ph.D.)

Professor Chuan Goh

Fall 2010

1 Basic Information

- This syllabus refers to the second half of a one-semester course. **Chuan Goh** is the instructor for the second half of the semester. The first half of the semester was taught by Christian Gouriéroux.
- Lectures will be held on Tuesdays between 1:10 and 3:00 and on Wednesdays between 11:10 and 1:00 in AB 114.

2 Instructor Contact Information

- Professor Goh will hold office hours on Wednesday afternoons between 2 and 4 o'clock in Max Gluskin House, 150 St. George St., Room 232.
- His office telephone number is (416) 978-4964.
- He can also be reached by e-mail at `goh@economics.utoronto.ca`.

3 Course Content

This half of the course develops the theory of tests and confidence regions in relation to key concepts of statistical decision theory. This material should be viewed

as essential preparation for the remainder of the Ph.D. econometrics sequence. The lectures will attempt to cover the following topics in order:

1. Prelminaries
   (a) Data, models, parametrizations and parameters
   (b) Bayesian models
2. Statistical Decision Theory
   (a) The decision-theoretic framework
   (b) Global comparison of statistical decisions
   (c) Overview of Bayes and minimax criteria
   (d) Prediction
   (e) Implementation of Bayes procedures
   (f) Implementation of minimax procedures
3. Tests and Confidence Regions
   (a) The Neyman-Pearson framework
   (b) The Neyman-Pearson Lemma
   (c) Uniformly most powerful tests in models with monotone likelihood ratios
   (d) Confidence regions
   (e) Likelihood ratio procedures

Topics that may have been touched on in the first half of the semester may be covered quickly.

The lectures are not based on any one textbook. Students may find it helpful to consult any of:

- Christian Gouriéroux and Alain Monfort, *Statistics and Econometric Models*, Volume One: General Concepts, Estimation, Prediction and Algorithms (1995), Cambridge University Press, ISBN 0-521-47744-1. Sections 1.1 and 1.2, Chapter 2 and Sections 11.1, 11.2, 12.1 and 12.2 are relevant.

- Christian Gouriéroux and Alain Monfort, *Statistics and Econometric Models*, Volume Two: Testing, Confidence Regions, Model Selection and Asymptotic Theory (1995), Cambridge University Press, ISBN 0-521-47745-X. Chapters 14 and 15 and Sections 20.1 and 20.2 are particularly relevant.
- George Casella and Roger L. Berger, *Statistical Inference*, Second Edition (2002), Duxbury, ISBN 0-534-24312-6. Chapters 8 and 9 are relevant.

4 This Course on the Web

Students are asked to take note of the URL for the course webpage:

`http://www.chuangoh.org/eco2400f.html`.

Assignments and any announcements or class handouts will be made available directly on this site.

5 Homework

Problem sets will be given at approximately weekly intervals. Although these problem sets will not be graded, their completion will be essential for success in this course.

6 Grading Scheme

The final grade for the second half of this course will be based entirely on the grade attained on the final exam, which has been scheduled for **Friday, 17 December between 9:00 and 12:00**.