

Outline for EC 3610: Advanced Econometric Theory

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Reading List

My lectures will be based on my textbook:

Koop, G. (2003). *Bayesian Econometrics*, published by Wiley.

I will also sometimes refer to:

Koop, G., Poirier, D. and Tobias, J. (2007). *Bayesian Econometric Methods*, Cambridge University Press, (Volume 7 in the *Econometrics Exercises Series* edited by Karim Abadir, Jan Magnus and P.C.B Phillips)

This second book is composed of theoretical and computational exercises which contain solutions (Matlab code containing solutions to the computer problems is available on the book's website). By choosing appropriate questions, the reader can develop theoretical and/or computational skills in their area of particular interest.

Prerequisites

The course will assume that participants have a basic knowledge of probability (i.e. definitions and rules relating to conditional, marginal and joint probabilities and definitions and properties of common distributions such as the multivariate Normal and t-distributions). In addition, the participant should have a knowledge of basic matrix algebra. The Appendices to Koop (2003) provide a summary of the probability theory and matrix algebra used in this course and the participant with an inadequate background in these topics should read these before the course begins.

Course Content

References to readings are from my textbook, *Bayesian Econometrics*, unless otherwise specified.

Topic 1: An Overview of Bayesian Econometrics.

Reading: Chapter 1

Topic 2: Bayesian Computation in the Linear Regression Model

Reading: Chapter 4

Topic 3: Bayesian Computation in the Nonlinear Regression Model

Reading: Chapter 5

Topic 4: The Linear Regression Model with Panel Data

Reading: Chapter 7

Topic 5: Qualitative and Limited Dependent Variable Models

Reading: Chapter 9