Goal: To provide students with an understanding of basic concepts in Bayesian Statistics and computational skills needed for Bayesian models; To cover both frequentist and/or Bayesian econometrics pertaining to the following models: linear regression, Tobit, Logit, Probit, various panel data techniques, seemingly unrelated regressions, stochastic frontier models.

Grading: Final grades will be determined on the basis of the total points earned by each student. The student can accumulate points on a midterm exam, final exam, paper(s), homework and writing econometrics programs for MATLAB.

The available points are as follows:

- Midterm Exam: 200 points
- Final Exam: 300 points
- Homework: approximately 50 points per assignment
- Paper: up to 200 points per paper
- Computer programs: up to 100 points per algorithm, but 50 is more likely

The students must accumulate 500 points for a B and 800 for an A in the class.
1. Suggested Books

1.1 Bayesian Econometrics


First published in 1939, this book is the best reference available for the philosophy behind Bayesian Statistics and basic concepts.


Perhaps the most influential book in Bayesian econometrics. Covers all the basic models. The key problem is that most of the current numerical integration techniques were not known at the time, so some simplifying assumptions are made for analysis in that text that would not be used today.


Chapters 4 provides a good basic description of ideas in Bayesian statistics and chapter 7 is again a basic description of Bayesian regression. This book is also dated, since it was published before important computational advances.


Berger and Press are the most popular Bayesian references written again just before important advances in numerical integration.


The most common text for Bayesian econometrics courses. It focuses more on theory and does not address sampling algorithms in great detail.


A basic text that covers most relevant topics and includes some sampling algorithm. The book also covers many statistical models, many of which are rarely used in econometrics.


This newest text does a very nice job incorporating recent computational advances. The one problem is that many examples are geared more towards biometrics.
1.2 Frequentist


The most recent and best reference on panel data models.


For many years this was the text for limited dependent variable models.


The best reference for extremum estimators. It also has a very nice chapter on limited dependent variables. The text is particularly useful as a reference when your work requires analysis of something other than the standard models in other texts.


A good basic introductory graduate text.


Provides equations and general descriptions of most econometric models.