Macroeconometrics - Fall 2011

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Syllabus

1 Website

The class website is http://www.jaceksuda.com/teach/.

2 Description

The purpose of this course is to familiarize students with current techniques used in macroeconomic time series models. The focus is on implementation of the models presented in the course. Topics covered include ARMA models; unit roots and structural breaks; trend/cycle decomposition methods, including Kalman filtering; and, if time permits, learning in macroeconomics.

3 Requirements

Homework assignments will involve generating and explaining computer output from models covered in the class with weight of 50% of final grade. The class ends with take-home final exam.

4 Readings

There is a number of textbooks that covers a part of material discussed in class. Book that covers most of the material is

- *Time Series Analysis* by James D. Hamilton, Princeton University Press, 1994.

Other texts that cover discussed material or serve as good introduction are

- *State-Space Models with Regime Switching* by Chiang-Jin Kim and Charles R. Nelson, MIT Press, 1999.
- *Applied Econometric Time Series* by Walter Enders, Wiley, 2004.
- *Introduction to Bayesian Econometrics* by Edward Greenberg, Cambridge University Press, 2007.
- *Econometrics* by Fumio Hayashi, Princeton University Press, 2000.

The readings include journal articles and chapters from the above books.

5 Outline

1. Stationary Time Series Analysis
   ARMA Models, Forecasting, State-Space Form, Kalman Filter

   - Hamilton 1-5
   - Kim and Nelson 2-3
   - Diebold, F.X., 1998, "The Past, Present and Future of Macroeconomic Forecasting," *Journal of Economic Perspectives* 12, 175-192.

2. Unit Roots and Structural Breaks, Non-linearities
   Unit Roots, Structural Breaks, Trend/Cycle Decomposition, Time-Varying Parameters

3. Learning in Macroeconomics (**if we have time**)
   Adaptive Learning, E-stability