Econometrics III (ECO 7426)
Ref. No. 20658

Department of Economics, Florida International University (MM Campus)
Spring Semester 2015

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Office Hours: M, W 08:00-08:50 am and by appointment
Lectures: M, W, F 09:00-10:15 in GC 271A

Reading Material

1. Walter Enders (2004), <u>Applied Econometric Time Series</u>, 2nd Edition, John Wiley & Sons, Inc.
2. James D. Hamilton (1994), <u>Time Series Analysis</u>, Princeton University Press.
3. Andrew C. Harvey (1991), <u>An Econometric Analysis of Time Series</u>, 2nd Edition, Cambridge University Press.
4. Andrew C. Harvey (1989), <u>Forecasting, Structural Time Series Models and the Kalman Filter</u>, Cambridge University Press.
5. Howell Tong (1990), <u>Non-Linear Time Series: A Dynamical System Approach</u>, Oxford University Press.
6. See also accompanying List of Readings.

Course Objectives

The course has three objectives. The first objective is to introduce basic topics in time series econometrics, namely the theory of difference equations and the traditional Box-Jenkins ARIMA models.

The second objective is to introduce some advanced topics in time series econometrics. These include models for capturing conditional heteroskedasticity such as the ARCH / GARCH class of models, basic models for capturing nonlinearities in the mean such as threshold auotoregressions, and models for capturing regime changes such as the Markov switching models. If time permits, the course will also deal with advanced linear models such as state space (unobserved components) models and the related Kalman filter under normality of the errors.

The third objective of the course is to get students familiar with the art of conducting empirical work in time series econometrics through the use of suitable computational software. Towards this end, computer assignments will be given periodically throughout the course. Students are *required* to work with the GAUSS software for their homework assignments.

Assessment

Regular homework and computer assignments will be given throughout the semester on all major topics covered to enhance understanding of the core material in the course.

The course assessment will be entirely based on homework and computer assignments.

Guidelines for Submitting Homework and Computer Assignments

Each homework assignment will consist of several questions, analytical and computational. Students are responsible for answering all the questions assigned for all homework assignments.

Students are encouraged to work in collaboration with a partner on their homework and computer assignments. Only *one copy* of the homework / computer assignment is to be handed in between every *two* students.

Although I do not expect typed homework submissions, these nevertheless should be neatly written, stapled, concise but complete, and include all relevant data, computer programs, and computer output where appropriate.

Students need to submit the computer code written for their homework electronically by e-mail as well.

Solutions to the graded questions will be discussed in class.

Late assignments will not be accepted for any reason whatsoever.

Grades

The final course grade will be based on the cumulative total score in the course comprising of the scores on the homework and computer assignments. Letter grades will be based on the distribution ("curve") of these final scores of all students in the course. Depending on the overall performance of the students, the minimum total score required to obtain a particular grade ("the cutoff") will be determined at the end of the semester.