January 4, 2025

Econometrics III (ECO 7426 – U01)
Ref. No. 16167

Department of Economics, Florida International University (MM Campus)
Spring 2025 (Jan 06 – Apr 26)

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Office Hours: M, W 10:00-10:50 am in DM 320A
Lectures: M, W 11:00-12:15 in DM 144

Reading Material

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

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.

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.

Academic Misconduct

Florida International University is a community dedicated to generating and imparting knowledge through excellent teaching and research, the rigorous and respectful exchange of ideas, and community service. All students should respect the right of others to have an equitable opportunity to learn and honestly demonstrate the quality of their learning. Therefore, all students are expected to adhere to a standard of academic conduct, which demonstrates respect for themselves, their fellow students, and the educational mission of the University. All students are deemed by the University to understand that if they are found responsible for academic misconduct, they will be subject to the Academic Misconduct procedures and sanctions, as outlined in the Student Handbook.