Dr. Joshua R. Hendrickson   **Syllabus**   **Spring 2012**

Economics 603
Applied Time Series Econometrics

Contact Information $\left\{ \begin{array}{l} \text{Office: 229 North Hall} \\ \text{jrhendr1@olemiss.edu} \end{array} \right.$ Office Hours $\left\{ \begin{array}{l} \text{Mondays} \ldots 10 - 12 \\ \text{Or by appointment} \end{array} \right.$

Required Text: *Applied Time Series Econometrics, 3rd edition* by Walter Enders

Recommended Text: *Macroeconomic Theory, 2nd edition*, by Thomas Sargent

This course is designed to provide you with a better understanding of time series econometrics from an applied perspective. The course should provide a link for students between economic theory, model estimation, and hypothesis testing. The core of the material covered in class is the analysis, understanding, and solution of difference equations. We will begin by discussing univariate time series and stationarity before progressing to models with deterministic and stochastic trends. Subsequently, we will expand the discussion to multivariate methods such as vector autoregressive and error correction models. We will also talk about volatility within the context of ARCH and GARCH models. Finally, we will look at published research in order to demonstrate the applicability of these tools for analysis as well as discussing potential pitfalls in research.

Course Outline:

The material covered will include, but not necessarily be limited to:

- Difference Equations

- Stationary Models

- Deterministic and Stochastic Trends

- Multivariate Time Series

- Cointegration and Error Correction

- ARCH Models

Grading

Grading for the course will be based on a series of presentations and a final exam. The first part of the course will be devoted to lectures on topics relevant to understanding conventional time series tools for estimation and how these tools are relevant for testing explicit hypotheses. In the second part of the course, students will choose two papers from a list that I provide to present in class. The papers are publications in peer-reviewed journals and therefore should be of some measure of quality. Students will be expected to provide a presentation of the material in the paper and provide a critical assessment of the paper. In addition, students will be expected to submit a written review and critique of the paper as well. A final exam will be given at the end of the course that tests the ability of the student to take a theoretical model to the data.

Rules and guidelines

Academic misconduct will not be tolerated. Giving or receiving improper assistance during exams as well as the use of other materials will be construed as cheating and the offender will receive a '0' on the exam and will be punished to the full extent of university policy.

By taking this class, you are agreeing to the terms of this syllabus. You also recognize my right to modify this syllabus, if necessary, at any time.