This course is one of many courses designed to assist you in meeting the learning goals of the Ph.D. program. They may be found here:
http://www.fcbeassessment.net/LearningOutcomes/PhDDegreeLearningOutcomes.pdf

Prerequisites: Economics 7810/8810 or permission of instructor.

Course structure: This course provides an overview of time series econometrics theory and methods with applications. A firm understanding of basic econometrics, statistical inference, calculus and linear algebra is assumed.


Most lecture topics follow Enders, while Johnston and DiNardo may serve as an alternative explanation for some topics. Asteriou and Hall have excellent EViews examples. Brooks is the most elementary of the three and focuses on finance topics. Readings from these three texts will be noted on the course outline below. There are many interesting applications and all of the estimation and testing is done using EViews, which we will use in this class. There are numerous other text books and reference books that may also be of interest.


We will use EViews for all exercises and applications. All data sets and programs mentioned in Enders are available in both Excel and EViews workfiles. Eviews is available on the network. The student edition may be purchased directly from Quantitative Micro Software. This is recommended.
Finally, all materials for the course, syllabus, problem sets, etc. will be on-line in E-Courseware or e-mailed to you directly.

**Examinations and Grading:** There will be two graded problem sets, or take home exams, and a research paper. Each component is of equal weight (33.3%). Late assignments will not be accepted. Guidelines for the research paper will be provided in class. Final project/paper must demonstrate knowledge of the econometric methods discussed in this class and a project or paper from another class may not be used for this class. Guidelines for the research paper will be provided in class. See also Chapter 13 of Brooks to start with. The plus and minus grading system will be used.

**General Policies**

**Academic Misconduct:** Academic dishonesty of any sort will not be tolerated. The minimum punishment for academic dishonesty will be an F in the course. The University provides a software package, TurnItIn, which you may use to assess the originality of your work for the project paper. A high “similarity score” is considered plagiarism and will result in an F for the course. Further action may be taken. Refer to the University of Memphis Code of Student Conduct at http://www.memphis.edu/studentconduct/code.php

**General student services information** may be found here: http://www.memphis.edu/fcbe/integrity/

http://www.memphis.edu/fcbe/students/services.php

Additional specific information:

**Students with Disabilities:** Any student who anticipates physical or academic barriers based on the impact of a disability is encouraged to speak with me privately. Students with disabilities should also contact Disability Resources for Students (DRS) at 110 Wilder Tower, 901-678-2880. DRS coordinates access and accommodations for students with disabilities.

**Center for Writing and Communication (CWC):** The CWC is a combined writing and speaking center that provides free, one-on-one and group tutorials to students working on writing and presentation assignments. CWC staff can assist you at any stage of the writing/presentation process including brainstorming ideas, revising initial drafts, and developing editing strategies. It is located on the first floor of McWherter Library and is open Monday-Thursday, 9:00-5:00, and Friday, 9:00am - 12:00pm. Walk-in or visit www.memphis.edu/cwc for more information and to schedule an appointment.

**Course Outline:**

I. **Introduction to Difference Equations**
   E: Chapter 1
   Chiang and Wainwright: Chapters 17 and 18.

II. **Stationary Time Series Models: Identification, Estimation and Testing**
    E: Chapter 2
    A&H: Chapter 13
    J&D: Chapter 7
    B: Chapter 6.

III. **Modeling Volatility:** ARCH, GARCH, EGARCH and others
**Midterm Problem Set due February 15**

IV. Models with Trend; unit root tests, etc.
   E: Chapter 4
   A&H: Chapter 16
   J&D: Chapter 7.3
   B: Chapter 8.1-8.3

V. Multi-equation Time Series Models: VAR, SVAR, Impulse Response Functions
   E: Chapter 5
   A&H: Chapter 15
   J&D: Chapter 9.1-9.2
   B: Chapters 7.11-7.17

VI. Cointegration and Error Correction Models
   E: Chapter 6
   A&H: Chapter 17, 18
   J&D: Chapter 9.3-9.6
   B: Chapter 8.4-8.13

VII. Other Topics, if time allows
   Solving Models
   A&H Chapter 19

*** Final Problem Set due April 29 ***
*** Project due Tuesday May 5 ***