Statistics and Econometrics 3 (Winter 2016)

Time Series Analysis

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Course Outline

The course provides an introduction to time series analysis. We will draw on material from several textbooks, including *New Introduction to Multiple Time Series Analysis*, by H. Lutkepohl; *Time Series Analysis* by J.D. Hamilton; and *Econometrics* by F. Hayashi.

The course will cover the following topics: Stationarity & Ergodicity, ARMA, Unit Root & Spurious Regression, Structural Breaks, VAR, Cointegration, GARCH, and Markov Chains.

Grading Policy

Grades will be based on: Five problem sets (20%); and a final exam (80%). Problem sets must be turned in on time in order to receive credit. The threshold for passing the course is a combined score of 60/100.

Website

The course website is at https://sites.google.com/site/eui2016statmetrics3/
Lecture notes, problems sets, etc. will be uploaded to the website

Schedule (preliminary)

Week 1	Introductory TA Session: Wed 16:00-18:00 Lectures: Thu & Fri 8:45-10:45. Introduction and Stationarity & Ergodicity, Martingale, Markov Chain.

Week 2	Lectures: Mon & Wed 8:45-10:45. TA Section: Thu 15:00-17:00. Linear Processes and ARMA - Problem Set 1 due on Wednesday at 15:00.
Week 3	Lectures: Mon & Wed 8:45-10:45. TA Section: Thu 15:00-17:00. Unit Root & Spurious Regression Problem Set 2 due on Wednesday at 15:00.
Week 4	Lectures: Mon & Wed 8:45-10:45. TA Section: Thu 15:00-17:00. Structural Breaks and VAR Problem Set 3 due on Wednesday at 15:00.
Week 5	Lectures: Mon & Wed 8:45-10:45. TA Section: Thu 15:00-17:00. Cointegration. Problem Set 4 due on Wednesday at 15:00.
Week 6	TA Section: Thu 15:00-17:00. Problem Set 5 due on Wednesday at 15:00.