

Carnegie Mellon University
Graduate School of Industrial Administration

47-944
(6 units)

Introduction to Time Series Models

Spring 2004

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Class Meetings: Monday & Wednesday
10:30 – 12:20 rm 318 GSIA Building

TEXTBOOK

The textbook for this course will be
Hamilton, James D. “Time Series Analysis,” Princeton University Press, 1994.

GRADING

Your final course grade will be determined by a paper that you will write during the mini. Select a times series that you are interested in studying. I want you to review two published empirical papers that study this series. You should then estimate at least one “appropriate” model for your series. It would be nice if you estimated several different models.

Your final paper will be a collection of what other researchers have done and your own results. You should compare and contrast the results. You should also include

1. A general description of the data.
2. A plot of the series.
3. Any problems with the series. (Was the model stable over the entire period? Are there any outliers?)
4. Related to the previous item, explanations of any simplifying assumptions used in modeling the series.

The final paper will be due at 5:00PM on May 3.

TOPICS

1. Difference equations (two lectures)
Chapters 1 and 2.
2. Box and Jenkins Methodology (three lectures)
Chapters 3 and 4.
3. VAR's (one lecture)
Chapters 10 and 11.
4. Unit Root Distribution Theory (two lectures)
Chapter 17.
5. Co-integration (two lectures)
Chapter 18 and 19.
6. Conditional heteroskedasticity Models (two lectures)
Chapter 21.
7. Spectral Analysis (two lectures)
Chapter 6.
8. Empirical Likelihood with time series data (one lecture)
(How do you do question 4 on this year's Econometrics Qualifier?)