ORI 390R3

Time Series Analysis

Spring 2001	M-W 3:30-5
Professor	Melba M. Crawford Etc 5.118 Phone: 471-3070 Email: melba@mail.utexas.edu
Office Hours	MW 9:30-10:30, F 1-2 or by appointment
Texts	*Statistical Methods for Forecasting* B. Abraham and J. Ledolter, Wiley (1983) (Text is out of print. Copies will be made for the class) *Time Series Analysis, Forecasting and Control* G.E.P. Box and G.M. Jenkins, Holden-Day (any edition, also the latest edition with Reinsel is published by Prentice-Hall)
Other References	*Forecasting, Principles and Applications* Stephen DeLurgio, Irwin/McGraw-Hill (1998) *The Analysis of Time Series, An Introduction* Chris Chatfield, Chapman and Hall/CRC, 5th Edition (1999)
Prerequisite	Graduate Standing, Graduate level courses in Mathematical Statistics and Regression
Homework and Exams	Homework will be involve solving theoretical problems and analysis of both simulated and real world data sets. Two equally weighted exams will be given during the semester, one covering classical methods in forecasting and the other on Box-Jenkins. Half of each exam will focus on theoretical fundamentals as an in-class exam. The other half of each exam will involve analysis of a data set provided to the student one week before the exam. There will be no final exam in this course.
Absence Policy	Absence Policy No exam make-up without medical justification. The final exam will be given during the final exam period assigned by the University.

	Presentations will be given during the last week of the semester.
Grading	Homework and class participation: 30% Exams: 35% each
Course Description	An introduction to classical forecasting techniques including discounted multiple regression and exponential smoothing will be followed by a focused study of Box-Jenkins modeling of univariate time series. Intervention analysis, transfer function analysis, and multivariate Box-Jenkins models will also be covered. The focus of the course will be time domain techniques, although spectral methods will be introduced and related to time domain approaches. As time allows, state-space models will be introduced. The goal of the course is both to provide a rigorous introduction to the statistical analysis of time series and to provide the environment for students to develop the capability to analyze time series data. While no specific package will be required for the analysis, it is strongly suggested that students use either SAS or SPSS.