

**Boston College  
Economics Department & CSOM**

**MD606/EC229-Forecasting**

Class Time: Wednesday (4:30 –7:00 P.M.)

Office Hours: Wed:3-4:30, Tu & Th (2-4)

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Course Description:

The goal of this course is two fold: (1) to provide an introduction to the theory and methods of time series forecasting; (2) to enable the student to apply that theory to actual business and economic time series data. Hence, the course will have both “theoretical” and “practical” components. The only prerequisite for the course is a basic Statistics course. The course does not require an advanced level of mathematics (i.e., calculus), but it does require strong abilities in algebraic and statistical reasoning.

The assignments will largely involve numerical calculations. These are most easily performed on a PC using a statistical package. The statistical package available at the OCF that can be utilized namely, SPSS.

Methodology:

Since variety is the spice of life and we have a 2 1/2 hours class, the class will consist of a combination of lecture, case analysis, group presentations, as well as determining the implications that a forecast would have on a businessperson’s planning strategy. Hence, the goals of the course are to learn: (1) statistical techniques and determining which is the “best” for a particular set of time series data; (2) explaining what the implications of your forecast for the firm.

Evaluation:

30%- Midterm exam

20% - Case Analyses as other group projects

20% - Group Project

30%- Final Exam

Text for the Course:

Forecasting: Methods and Applications: Makridakis, Wheelwright & Hyndman, 3<sup>rd</sup> edition, Wiley.

I will be handing out various assignments and cases as we go along. Every week I will have an assignment sheet for you along with questions for the case or assignment.

## **Tentative Schedule of Classes**

<b>Date</b>	<b>Topics</b>	<b>Assignment for next class (Chapter in Makridakis)</b>
Sept. 3	Review of Statistics, What is Time Series	Chap. 1
Sept. 10 Sept. 17	Elements of Time Series Evaluating a Forecast Transformations	Chap. 2
Sept. 24	Simple Linear Regression	Chap. 5
Oct. 1 Oct. 8	Multiple Regression	Chap. 6
<b>Oct. 15</b>	<b>Midterm Exam</b>	<b>(Chaps. 1, 2, 5, 6)</b>
Oct. 22	Moving Average Techniques	Chap. 3
Oct. 29	Exponential Smoothing	Chap. 4
Nov. 5	ARIMA Models	Chap. 7
Nov. 12	Intervention Analysis	Chap. 8
Nov. 20	(Group Project Due)	No Class
Dec. 4	Group Presentations (Each group will make a ten minute presentation of their group project)	

### **Final Exam- Wednesday, Dec. 10 (4:30 – 7:00)**

The final exam will be a take-home case analysis.