Fin642 Business Conditions & Forecasting

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Course Description
This course provides a comprehensive and state-of-the-art forecasting methods applied to business world. The techniques that you expect to learn include various time series analyses and econometric modeling. The course will also provide hand-on experience in using time series package (*EViews*, AUTOBOX, or RATS). Applications will be found in analyzing time series such as Treasury bill rates, exchange rates, stock market prices, inflation rates, unemployment rate, among other economic and business series.

Grading: A comprehensive exam: 50%
A research project and assignments: 50%

Exam Date: To be scheduled in class

Project Due: The Final Exam day (by 6:00 p.m.)

Text: ***Forecasting: Methods and Applications***, S. Makridakis, S.C. Wheelwright, and R. Hyndman, John Wiley & Sons, Inc., New York, NY, 3rd edition, 1998.

Software: ***EViews 4.1 Student Version*.** Quantitative Micro Software, 4521 Campus Drive, Suite 336, Irvine, California 92715. Phone (949) 856-3368, Fax (949) 856-2044.

Data: USMacro.xls, Interest_rates.xls, FIN642datafile and others in website

Lectures: To be obtained from homepage

Outline and Readings

	Topic	**Text**
I.	**Introduction to Forecasting System**	**Chs. 1&2**
	1. Concepts of Business Forecasting	Ch.1
	2. Basic Forecasting Tools	Ch.2
II.	**Trend and Smoothing Models**	**Chs. 3 & 4**
	1. Trend Fitting and Moving Average	pp.81-98 in Ch.3; pp. 141-146 in Ch.4
	2. Exponential Smoothing Methods	pp.147-155 in Ch.4
	3. Holt-Winter's Method	pp.158-173* in Ch.4
	4. Exponential Smoothing Calculations	pp. 174-178 in Ch.4
	5. Applications and Computing Exercises	
III.	**Regression Methods**	**Chs. 5 & 6**
	1. Forecasting with Regression Models	pp. 185-224 in Ch.5
	2. Multiple Regression Models	pp. 240-304 in Ch.6
	3. Applications of Regression Models in Business: Predicting Interest	
IV.	**Box-Jenkins Methodology**	**Ch. 7**
	1. Basic Properties of Time Series	pp. 311-346
	2. Identification of ARIMA Models	pp. 347-357, 360-362
	3. Estimation and Diagnostic Checking	pp. 358-360; pp. 364-365, 317-320
	4. Forecasting with ARIMA	pp. 366-373
	5. Computing Applications Using Financial Time Series	
V.	**Advanced Time Series Models**	**Ch. 8**
	1. Transfer Function and Noise Analysis	pp. 388-418
	2. Intervention Analysis	pp. 418-423
	3. Multivariate ARIMA	pp. 423-428
	4. Computing Demonstration and Applications	
VI.	**Other Forecasting Methods**	**Chs. 10 & 11***
	1. Judgmental Methods	pp. 483-508 in Ch.10
	2. The Combination of Forecasts	pp. 515-542 in Ch.11

* Optional materials