



**Econometrics II**  
**Topics in Financial Econometrics**  
**B30.3352**  
**KMC 5-75**

**Professor Robert F. Engle**  
**Fall 2002**  
**Tuesday: 10:00–12:50 pm**  
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## ***FINANCIAL ECONOMETRICS***

### ***FALL 2002***

### ***ROBERT ENGLE***

**Course Description:** The course is designed to introduce the econometric tools most used in finance and to gain understanding of the sources and characteristics of financial data. We will use *Datastream* or other vendors as a source for financial data, and *EViews* software to build ARCH and other time series models. There will be *homework* and a *paper* but no exam. There is a lot of reading. The bold references will be distributed one week in advance. The others will be available for lending in my office. The homework assignments will frequently be computer exercises which will be presented in class. *EViews* is available in the computer lab but I recommend that you buy a copy or upgrade to version 4.0 which has ARCH software as well as GMM, cointegration etc. This course presumes familiarity with finance as well as a course in graduate econometrics. Ideal preparation is Econometrics I and Finance Theory II.

*Time: Tues 10:00-12:50, Office Hours: Tues. 3:00-5:00 or appt.*

<b>DATE</b>	<b>TOPIC</b>	<b>READINGS</b>
	<b><u>FORECASTING RETURNS</u></b>	
9/10	Financial Data	GJ Chapter 1 [16] T Chapter 1
	Quick Review of Time Series Models	GJ Chapter 2 T Chapter 2
	Forecast Evaluation	[11]
	Data Snooping	[39],[40]
	<b><u>FORECASTING VOLATILITY</u></b>	
9/17	Volatility Models	GJ Chapt 6, T Chapt 3, [14],[18],[30],[36],[37]
9/24	Volatility: Econometric Theory	

10/1 Stochastic Volatility Engle Chapters 1,3,4,5,7,8 [8]  
Engle 2,4,6, [34], T Chapt 10,[42],[43]

### **PRICING AND HEDGING OPTIONS**

10/8 Options & Implied Vol GJ Chapter 13,  
10/15 Options with Stochastic Volatility [33] [7]  
10/22 Options with GARCH, Engle 9, 17, [20], [12],[38],

### **EXTREME VALUES AND VALUE AT RISK**

10/29 Quantiles, copulas, non-normality and extreme value distributions  
GJ Chapter16, T Chapt 7, [35], [25]

### **ASSET ALLOCATION**

11/5 Factor Models GJ Chapt 9, T Chapt 9 [28], CLM Chapt  
11/12 Multivariate GARCH Engle 11,13,14 [19], [23], [9]  
11/19 Dynamic Conditional Correlation  
[17][27][10]

### **MARKET MICROSTRUCTURE**

11/26 Market Microstructure O'Hara Chapter 1,2,3  
12/3 ACD [22][15],[21],[29]  
12/10 Liquidity [31],[32],[24], [13],[26]

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