Course Title: FE570 - Market Microstructure and Trading Strategies

Instructor: Steve Yang, Babbio 536, steve.yang@stevens.edu

Class Time: Lectures on Tuesday 06:30PM-09:00PM (05-28-2018 – 12-15-2018) Room: McLean 218A

Office Hours: Wednesday 11:00AM-12:00AM at Babbio 536

Prerequisites: None

Topics: This course offers an overview of modern financial markets for various securities (equities, derivatives, FX, and fixed income), different types of traders, orders, and market structures, market microstructure models used for describing price formation in for the various markets including inventory models and information-based models and models of limit-order markets. It also introduces several typical trading strategies including trend, momentum, and oscillator-based strategies, arbitrage trading strategies, as well as the methods of deriving and back-testing these trading strategies. Students are required to learn the basics of **R** statistical computing language, and be able to analyze financial data using the models learned from this course.

Textbook:

[Required:] Joel Hasbrouck, *Empirical* ***Market Microstructure***, Oxford University Press, 2007

[Optional:] Larry Harris, **Trading and Exchanges: Market Microstructure for Practitioners**, Oxford University Press, 2002

[Required:] Anatoly B. Schmidt, ***Financial Markets and Trading: An Introduction to Market Microstructure and Trading Strategies***, John Wiley & Sons, Inc., Hoboken, New Jersey.

Lecture Outline:

Week	Topic(s)	Reading(s)	HW
1	Introduction to Financial Markets	L. Harris [1, 3]	
2	Modern Financial Markets and Trading Mechanism	J. Hasbrouch [1,2], L. Harris [4, 5]	HW1
3	Orders, Market Structure and Brokers	L. Harris [6, 7], J. Hasbrouck [3]	
4	Liquidity, Volatility, and Regulation	L. Harris [18, 19]	
5	The Roll Model of Trade Prices	J. Hasbrouck [3]	HW2
6	Index and Portfolio Markets	Harris [23, 24]	
7	Inventory Models	L. Harris [19, 20], A. Schmidt[3]	
8	Market Microstructure: Information-based	L. Harris [24, 25],	HW3

	Models	A.Schmidt[4]	
9	Empirical Market Microstructure	J. Hasbrouck [5,6]	
10	Mid-term Exam		EXAM-I
11	Technical Trading Strategies	A.Schmidt[10]	
12	Arbitrage Trading Strategies	A.Schmidt[11]	HW4
13	Optimal Order Execution	A.Schmidt[12,13]	
14	Final Exam		EXAM-II

Exams and Grades:

Assignment	Grade Percentage
Assignments	40%
Midterm exam	30%
Final Exam	30%
Total Grade	100%

Exams: Two Exams. (Mid-term) EXAM **I**: **March 13 -** (Tues). (Final) EXAM **II**: **May 15** - (Tues). These exams will consist of short questions, and data analysis using R.

Exam Honor Policy: You are not allowed to discuss any of the exam questions with one another or to show any of your solutions. The work must be done **independently** and **pledged**.

Homework: There will be **4 homework assignments** (approximately every 2-3 weeks).

Homework Honor Policy: You are allowed to discuss the problems between yourselves, but once you begin writing up your solution, you must do so independently, and cannot show one another any parts of your written solutions. The HW is to be **pledged** (that it adheres to this).

Attendance: Attendance will be taken randomly (e.g., 6-7 times during the semester) and will determine "which direction" the resulting grade will “fall”, for those grades which are borderline (e.g., between B+ or A-).