Foundations of Finance

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Overview

The objective of this course is to provide a rigorous and an integrated framework for understanding the mechanism of financial investment. The course will emphasize intuition and insight, as well as rigorous analysis in order to foster students' interest and skills in applying financial theory to practical applications. The main topics of the course are arbitrage, portfolio selection, equilibrium asset pricing (CAPM), fixed income securities and derivative pricing. The materials to be covered include the following areas: *financial markets, financial analysis of common stocks and fixed income securities, modern investment theory and its applications* and *option evaluation*. The course is best suited for the following students:

- Those who aspire to pursue an investment banking career. (I love working 16 hours a day, everyday.)
- Those who want to be a powerful security analyst. (It's fun to drive .com price up and down by 50% a day.)
- Those who wish to become a professional money manager

The models we will cover have immediate applications and implications for real-world financial decisions. Every effort will be made to relate the course material to current financial news. I will spend considerable time on the current economic crisis in Europe and its effects on the financial markets

To take this course, students must be comfortable with statistics, linear algebra, and calculus.

Course Materials

In this course, teaching materials are drawn from several books, newspapers, and periodicals. Required readings include chapters from the ***textbook*** and ***lecture notes***. They will be assigned for each class. It is important to read the assigned lecture notes before coming to the class. It will be difficult to follow the course without reading the background material ahead of time (hopefully the opposite is also true).

- **Textbook:** Zvi Bodie, Alex Kane, and Alan J. Marcus, **Essentials of Investments**, 8th Edition, McGraw-Hill Irwin.

- **Lecture notes:** Will be posted to the blackboard system before the lectures. These notes will be the "**main**" course materials for this class.

- **Study questions:** I will assign study questions after lectures, and solutions will be posted shortly after. You are encouraged to work on them before exams. You do not need to turn study questions in.

- **Homework:** I will assign three sets of homework questions.

- **Wall Street Journal, Financial Times, New York Times, Economist**

- **Fun Books:** A Random Walk Down Wall Street (Burton Makiel)
  When Genius Failed: The Rise and Fall of Long Term Capital Management (Roger Lowenstein)
  Liar's Poker (Michael Lewis)

Finally, you need a calculator for this class. It is a distinct advantage to have a financial calculator, but not an absolute requirement However, if you plan to take other finance classes, you will get good use out of a financial calculator.

Course communication

Course announcements will be posted to the Blackboard system. It is your responsibility to check the announcements.

Due to the email virus situation, it is important that your email does not get filtered out: when you email the professor or the TA, please identify yourself by including "***Foundations of Finance***", and ***name*** in the subject line.

Grading Policy

Course requirements include class participation, homework assignments, one midterm and a final exam. The final grade is based on the following formula:

class participation (5%) + 3 Homework Sets (15%)+Midterm (35%) + final (45%)

Class Participation: Your class participation grade is decided by attendance, classroom discussion, and performance in random/pop quizzes. Attendance is ***mandatory*** as the course material builds on each other and gets harder as we progress through the semester.

If you have to miss a class, you are responsible for knowing what goes on in class, which may include material not covered in the readings, modifications to the syllabus or lecture notes, and announcements concerning exams. My experience tells me that missing classes on a regular basis will put you in a disadvantageous position because some material is quite technical and difficult. I strongly discourage entering/leaving the classroom during the class since it greatly distracts others. Please also kindly turn off cell phone and beeper while the class is in session.

At NYU Stern we seek to teach challenging courses that allow students to demonstrate differential mastery of the subject matter. Assigning grades that reward excellence and reflect differences in performance is important to ensuring the integrity of our curriculum. As such, following faculty guidelines, grades for this course will follow approximately the following distribution:

A's (A/A-) 25-35%
B's (B+/B/B-) 50-70%
C's and below 5-15%

Note that while we use these ranges as a guide, the actual distribution for this course will depend upon how well the class actually performs in the course.

Exams: All exams will be close-book. You are allowed to bring one 8 ½"x11" page ***handwritten*** "formula-sheet". Questions may involve numerical problems and conceptual questions that are related to lectures or reading assignments. While the Midterm mainly cover the material immediately studied in previous classes, the final exam will be cumulative and comprehensive. **No makeup exams** will be given, except for medical emergency as proved by a written note from a doctor with contact information for verification purpose.

Policies and Procedures

Students are expected to adhere to the NYU Stern Undergraduate Code of Conduct, a copy of which can be found at http://www.stern.nyu.edu/uc/codeofconduct. A student's responsibilities include, but are not limited to, the following:

• A duty to acknowledge the work and efforts of others when submitting work as one's own. Ideas, data, direct quotations, paraphrasing, creative expression, or any other incorporation of the work of others must be clearly referenced.
•A duty to exercise the utmost integrity when preparing for and completing examinations, including an obligation to report any observed violations.

Students whose class performance may be affected due to a disability should notify me immediately so that arrangements can be made to accommodate their needs in consultation with the Henry and Lucy Moses Center for Students with Disabilities (http://www.nyu.edu/csd/).

Tentative Course Schedule (Subject to Change)

L: Lecture Notes, BKM: Textbook (will be discussed in class), HW: Homework Assingments, SQ: Study Questions

Class	Topic	Reading	Note
1	**Course Overview**	Syllabus	
2	**Background and Issues in Investments and Financial Instruments**	L1	
3	**Time Value of Money I** Present and Future Value Annuities and Perpetuities	L2	
4	**Time Value of Money II** Compounding, EAR, APR	L2	
5	**Bond Valuation I** Bond Prices and Yields	L3	
6	**Bond Valuation II** Bond Prices and Yields (cont) Interest Rate Sensitivity	L3	
7	**Bond Valuation III** Interest Rate Risk Yield Curve	L3	Study Questions (SQ I)
8	**Equity Valuation I** Constant Growth Model Supernormal Growth Model	L4	
9	**Equity Valuation II** Present Value of Growth Opportunity	L4	
10	**Equity Valuation III** Valuation Ratios	L4	First Homework Assignment (HW I)
Extra	Extra Review Session (I will come to school on a Saturday or Sunday)		
11	**First Midterm Exam**		S2
12	**Risk and Return I** Expected Value and Variance	L5	
13	**Risk and Return II** Statistics review	L5	
14	**Portfolio Theory I** Capital Allocation Line Sharpe Ratios	L6	
15	**Portfolio Theory II** Slope of CAL, Kinked CAL	L6	

	Combining two risky assets		
16	**Portfolio Theory III** CML, Optimal Risky Portfolio Minimum Variance Portfolio	L6	
17	**Portfolio Theory IV** CML, Optimal Risky Portfolio (cont) Minimum Variance Portfolio (cont)	L6	Second Homework Assignment (HW II)
18	**CAPM I** Equilibrium Capital Asset Pricing Theory	L6,L7	
19	**CAPM II** Security Market Line Mispriced Securities	L6,L7	Study Questions (SQ II)
20	**CAPM III** APT Market Efficiency	L6,L7	
21	**CAPM III** Stock Market Anomalies Cross-Section of Stock Returns	L6,L7	
22	**Futures** Forward and Futures Contracts	L8	
23	**Options I** Options Markets Binomial and Black-Scholes option pricing	L8	Study Questions (SQ III)
24	**Options II** Binomial and Black-Scholes option pricing (cont)	L8	
25	**Options III** Naked Options Protective Put Covered Call	Handout	
26	**Options IV** Straddle, Strangle	Handout	
27	**Options V** Spreads and other Strategies	Handout	Study Questions (SQ IV)
28	**Options VI** Other Stragetegies (cont)	Handout	Third Homework Assignment (HW III)
Extra	Extra Review Session (I will come to school on a Saturday or Sunday)		
	Final Exam		