# Foundations of Financial Markets

Summer Semester 2010 C15.0002.01

#### 1 Instructor

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### 2 Description of the Course

This is the first course in finance for most students and it gives an introduction to financial markets. We will learn the basic elements of financial securities, how they are valued and traded, and how to make optimal investment decisions with these securities. The main topics are portfolio selection, equilibrium asset pricing, arbitrage, fixed income securities and derivatives. The course is rigorous and quantitative. Students are expected to understand and apply quantitative methods. Examples illustrate important real-world applications of the theory. A tentative schedule is attached at the end of this document.

**Class Time.** The class meets twice per week, Tuesday and Thursday, 12:00 - 2:55 pm. The first class is on Tuesday May 18, 2010. The last class is on Thursday June 24, 2010.

Additional review sessions will be held as needed and will be announced in class and in Blackboard.

#### 3 Readings

The textbooks for this class are:

- 1. "Essentials of Investments" by Zvi Bodie, Alex Kane, Alan J. Marcus,  $7^{th}$  edition.
- 2. "Solutions Manual for use with Essentials of Investments" by Zvi Bodie, Alex Kane, Alan J. Marcus,  $7^{th}$  edition.

 Selected Materials from "Essentials of Corporate Finance" by Stephen A. Ross, Randolph W. Westerfield, Bradford D. Jordan, 8<sup>th</sup> edition.

We will mainly use [1], abbreviated BKM below. If you have an earlier edition of BKM (sixth or fifth), you are fine. There are only minor changes between editions. Page and chapter numbers may vary though. If you use an older edition it is your responsibility to find out the differences with the latest edition.<sup>1</sup>

Book [2] will come in handy to solve practice questions. We will only use chapters 4, 5 and 8 from book [3], abbreviated RWJ.

Staying Up-to-Date. The class website on Blackboard contains links to recent articles in the financial press that complement the lectures. You are encouraged to follow financial and macroeconomic news in the Financial Times, Wall Street Journal, or The Economist. If you encounter an interesting article that you would like to share with the class, send me an email and I will post it on the class website. This section of the Blackboard site is regularly updated during the semester.

## 4 Communication

The class website is on Blackboard at http://www.sternclasses.nyu.edu/. This is the central location where all teaching materials are posted. Lecture notes, problem sets, solutions, sample exams and class announcements will be posted here. Finally, there is a discussion board where I will participate on a regular basis to answer your questions. You are encouraged to answer each others' questions. You can turn to the discussion board to read your colleagues questions and the answers to their questions. Please ensure that you have access to Blackboard and check it regularly.

#### 5 Exams and Assignments

**Grading.** There will be weekly assignments (problem set and investment game), a midterm exam and a final. The breakdown of the final grade:

Class Participation	10%
Assignments	20%
Midterm	30%
Final	40%

Details follow.

<sup>&</sup>lt;sup>1</sup>The main role of the textbooks is to serve as a source where you can review the material. BKM is at times very good and tightly linked to the material I cover, but the link to the material I cover in class is a bit weaker on some other topics. That being said, it is currently the best book on the market for our purposes, and you will need it to prepare before class and go over the material after class.

**Problem Sets.** There will be a problem set assigned during the Tuesday session of each week. It will correspond to material covered that week. The problem set will be due one week from the day assigned and all assignments should be handed in at the beginning of class. Please make a good-faith effort to answer all questions. If you are unable to fully answer a question, try to identify the source of your uncertainty (Is it a general financial concept you don't fully understand? Is it a mathematical issue? etc). Answers to the problem set must be your own and must be handwritten. You are encouraged to acknowledge any help you received on the front page of your problem set solution. Late problem sets will not be accepted.

Investment Game. We will run an investment game throughout the semester:

- At the beginning of the semester, students should form groups of three or four. Each group will receive (virtual) sum of 10,000 USD and should pick a name for the group.
- During the Thursday session of each week, you will receive a set of "securities" from which you should choose a portfolio.
- On the following Tuesday, you should submit your portfolio choices (with the homework) and explain your decision.
- On the following Thursday, securities payoffs will be realized, and you will receive a new set of "securities".

**Exams.** The midterm exam will be on June  $8^{th}$ . The final exam is on June  $24^{th}$ . The exams will be based on material taught in class and on homework problems. The final exam is cumulative. You will be allowed one double-sided page of notes for the midterm and two double-sided pages of notes for the final exam. The sheets must be no larger than 8.5 inches by 11 inches. Sample exams will be distributed a few days before the midterm and final.

**Study Group.** It is highly recommended that you regularly review the readings and class notes in a study group. Don't wait until exam time to set up such a study group. By then it's too late. You are encouraged to work on the problem sets with your study group, but you must hand in your own answers.

**Calculators.** You need a calculator for this class. A financial calculator is not a requirement. All the problems in this class can be answered with a regular calculator.

**Honor Code.** You are responsible for maintaining Stern's Honor Code which mandates zero tolerance for cheating and plagiarism. Violations of the honor code will be prosecuted with a minimum penalty of failure of the course, as required by code of conduct rules. If you become aware of any violations of the honor code you must take whatever steps are necessary to stop the violators, including notifying me.

Attendance and Classroom Civility. Attendance is mandatory and counts towards class participation. Your behavior should respect your classmates' desire to learn. Try not to come late to class as it is disruptive no matter how quiet you are. Laptops, cell phones, Smartphones and other electronic devices with wireless connections are not permitted during class. If you carry a cell phone or any other type of "audible alert device", turn it off before entering class. Please do not engage in side conversations during the lecture.

## 6 Course Content and Class Schedule

Prerequisites. Students should be comfortable with statistics, linear algebra and calculus.

**Content.** The course is a rigorous, quantitative introduction to financial market structure and financial asset valuation. The main topics of the course are arbitrage, portfolio selection, equilibrium asset pricing (CAPM), fixed income securities, and derivative pricing. There is a small section on project valuation.

You are expected to understand valuation formulas and be able to apply them to new problems. The appropriate tools necessary for solving these problems will be developed at each stage and practiced in the homework assignments. 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.

Class			Topic
Class 1	Tuesday	05/18	Introduction to Financial Markets and Investments
Class 2	Thursday	05/20	Time Value of Money and Return Measures
Class 3	Tuesday	05/25	Risk and Return
Class 4	Thursday	05/27	Portfolio Theory
Class 5	Tuesday	06/01	The Capital Asset Pricing Model
Class 6	Thursday	06/03	Performance Measurement
Class 7	Tuesday	06/08	Midterm
			Arbitrage
Class 8	Thursday	06/10	Equity Valuation
Class 9	Tuesday	06/15	Fixed Income Securities
Class 10	Thursday	06/17	Options
Class 11	Tuesday	06/22	Futures and Market Efficiency
Class 12	Thursday	06/24	Final

Detailed Outline. Below is a detailed schedule of the date and topic of each class.

Note: This schedule is tentative and subject to future changes.