

# **Syllabus Foundations of Finance**

## Summer 2015 (Session I)

### FINC-UB.0002.02

**Preliminary version - subject to change**

## **Instructor**

Mohsan A. Bilal  
Office: KMEC 9-197D  
Email: [mbilal@stern.nyu.edu](mailto:mbilal@stern.nyu.edu)  
Office Hours: TBD

## **Class Time and Location**

The class meets Tuesdays and Thursdays 12.20-3.30pm.  
Room: TBD.

The first class is on Tuesday May 26, the final exam is on Thursday July 2.

## **Description of the Course**

This is the first course in finance for most students, and it is a rigorous, quantitative introduction to financial markets. The main topics of the course are arbitrage, portfolio selection, equilibrium asset pricing, fixed income securities, and derivative pricing. You are expected to understand and apply valuation formulas and apply them to new problems. The models we will cover have immediate applications and implications for real-world financial institutions.

The course assumes no prior knowledge of finance. Students should be comfortable with statistics, linear algebra, and calculus. The course is intense. What students are asked to absorb in a full semester of four months, you will be asked to absorb in less than a month and a half. You should prepare to stretch yourself.

**Classroom Civility** Your behavior should respect your classmates desire to learn. Each lecture begins and ends on time. I understand your busy work schedules, but try not to come late. Because of the classroom layout, it is disruptive no matter how quiet you are. Laptop use is not allowed during class. While laptops have advantages in the classroom, on balance, I believe they hamper your own learning experience as well as that of your neighbors. The use of cellphones and similar devices (e.g., iPads) is also not allowed for the same reason. Please turn them off before entering class. Do not engage in side conversations during the lecture. Repeated occurrence of such disruptions will be reflected in the final grade.

**Students with Disabilities** If you have a qualified disability and will require academic accommodation during this course, please contact the Moses Center for Students with Disabilities (CSD, 998-4980) <http://www.nyu.edu/csd/> and provide me with a letter from them verifying your registration and outlining the accommodations they recommend. If you will need to take an exam at the CSD, you must submit a completed Exam Accommodations Form to them at least one week prior to the scheduled exam time to be guaranteed accommodation.

## Readings

The main class material is the course pack which I will hand out in the first class. All of this material will also be available on NYU Classes. The course pack contains all powerpoint slides that I use in class, handouts with important material covered in class, problem sets, and practice exams. You will want to take notes during class; space is available next to the slides and on the left page. The handouts at the end of the course pack are there to alleviate the amount of writing you need to do.

The textbook corresponding to the suggested readings are given below. *NOTE: the textbook is NOT required. Some people find the textbook helpful and some people do not. Read the description below before you decide on whether you feel it would be worth it for you to buy the textbook.*

- 1 “Essentials of Investments” by Zvi Bodie, Alex Kane, Alan J. Marcus, 9<sup>th</sup> edition
- 2 “Solutions Manual to accompany Investments” by Zvi Bodie, Alex Kane, Alan J. Marcus, Alan Marcus, 9th edition
- 3 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, seventh, or eighth), you are fine. There are only minor changes between editions. Page and chapter numbers may vary slightly, but this is hardly a reason to buy a new copy. At times BKM is very good and tightly linked to the material I cover. However, for other topics the link to the material I cover in class is a bit weaker. That being said, it is currently

the best book on the market for our purposes, and some students find it very useful for preparing before class and reviewing the material after class. Book [2] will come in handy to solve practice questions. We will only use chapters 4 and 5 from book [3], abbreviated RWJ.

**Staying Up-to-Date** 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 web site.

## Calculator

You need a calculator for this class. It is a distinct advantage to have a **graphing** calculator (sometimes also called an engineering calculator) or a **financial** calculator, but not an absolute requirement. If you plan to take other finance classes, you will get good use out of a financial calculator anyways. Standard financial calculators include the HP 12C (costs about \$70), the HP 10B-II (costs about \$30), and the TI BA-II Plus (costs about \$30). You are expected to learn how to operate the calculator on your own. However, I have included some useful slides in the course pack on how to work with the calculator.

## NYU Classes

The class site is on NYU Classes at <https://newclasses.nyu.edu/>. This is the central location where all teaching materials are posted. Announcements and problem sets will be posted here. Solutions to the problem sets will be posted and not be distributed in paper form in class. The class web site also contains the concept questions (see below), suggested problems, and some finance links and articles. 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. If you have a question, first turn to the discussion board; chances are the question has been asked and answered there already. Please ensure that you have access to NYU Classes and check it regularly.

## Exams and Assignments

Grades will be based on the final exam (40 percent), the midterm exam (30 percent), assignments (20 percent), and participation (10 percent). The assignments include 4 homeworks and the investment game. At NYU Stern, we strive to create courses that challenge students intellectually and that meet the Stern standards of academic excellence. To ensure fairness and clarity of grading, the Stern faculty have adopted a grading guideline for core courses with enrollments of more than 25 students in which approximately 35% of students will receive an A or A- grade. In core classes of less than 25 students, the instructor is at liberty to

give whatever grades they think the students deserve, while maintaining rigorous academic standards. Grading is not a process of negotiation.

In line with the Guidelines of the NYU Stern Undergraduate College, students are encouraged to respect the integrity and authority of the professor's grading system and discouraged from pursuing arbitrary challenges to it. If you feel that an inadvertent error has been made in the grading of your exam or overall course grade, a request to have the grade re-evaluated can be submitted. Students should submit such requests in writing to the professor within 7 days of receiving the grade, including a brief written statement of why he or she believes that an error in grading has been made.

**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 for 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. Per request of the dean, you must include a signed statement at the top of each problem set and exam, indicating that you adhere to the honor code. The statement is: *'I pledge my honor that I have not violated the Stern Honor Code in the completion of this exam/problem set.'* It is in your best interest that the market place knows that Stern takes honesty seriously; it adds to the value of your degree.

**Investment Game** We will run an investment game.

- By June 11, students should form groups of three or four. Each group will receive a (virtual) sum of 10,000 USD and should pick a name for the group.
- On June 16 you will receive a set of "securities" from which you should choose a portfolio.
- On June 18 you should submit your portfolio choices (and explain your decision).
- On June 23, securities payoffs will be realized.

**Exams** The midterm and final exams test your understanding of the key concepts in the class. They do not test your ability to memorize or to use your calculator. Rather they probe your deeper understanding of the material. As a result, they may be more challenging than the exams you are used to. To prepare for these exams, you should review the slides together with your own class notes, the handouts (at the end of the course pack), the concept questions, the readings, the problem sets, the sample exams (located in your course pack behind the homework), and preferably also the suggested problems. The final exam is *cumulative*.

You will be allowed one double-sided page of notes at the midterm exam and two double-sided pages of notes at the final exam. The sheets must be no larger than 8.5 inch by 11 inch. There are no restrictions on the content of the formula sheets, except that you are not

allowed to reprint my powerpoint slides. You will be asked to turn in these formula sheets after the midterm and exam, but you will be able to recover the midterm sheet in the week after the midterm. You are not allowed to take the exam questions home, and no written answers will be provided. There will be a post-midterm discussion. Once graded, you are allowed to come visit your midterm in my office, during office hours or by appointment. The same rules apply to the final. No laptops nor palm pilots are allowed on the exam.

**Problem Sets** There will be 4 problem sets over the course of the semester. Each problem set contains 1 excel question, emphasizing a practical implementation of a concept. The problem sets are graded on a 5 point scale (between 0 and 5). Late assignments will not be accepted. You are allowed to work in groups on the problems, but you must write up and hand in your own copy and you are asked to acknowledge any help you received on the front page of your copy. Do not just print two copies of the same writeup. This is for your benefit, since being forced to write up the problems will give you added familiarity and comfort with the material. The homework questions will be in the same spirit of the exam questions, but slightly easier. After all, they are your first encounter with the implementation of the material.

**Concept Questions** After every class, concept questions are posted on Classes. The concept questions test your understanding of the main concepts taught in the class of that day. Usually, there are between 3 and 10 multiple choice questions per test. After you have reviewed the material from class, it should not take you long (no more than 15 minutes) to complete these concept questions. The concept questions are a good warm-up for starting to practice solving problems on the material. They help to reinforce the material and make sure you do not fall behind. I will not keep track of whether or not you answered the questions correctly and they are **not** part of your grade. They are there purely for your benefit. Detailed solutions to the concept questions are also posted on our NYU Classes site.

**Suggested Problems** Suggested problems are posted on NYU Classes. These questions are intended to give you extra practice over and above the homework. You do **not** have to turn them in, and there is no credit for them. **Practice makes perfect:** You are strongly encouraged to take the suggested problems seriously.

**Study Groups** 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.

## Schedule

This schedule is tentative. Readings might be revised as we go through the material.

Class	Topic	Material
1. Tuesday May 26	Financial Instruments Financial Markets	BKM 1.1-1.4 BKM 2.1-2.3, 3.2
2. Thursday May 28	Time Value of Money Performance of Securities	RWJ 4 BKM 5.1, RWJ 5.1-5.2
3. Tuesday June 2	Portfolio Theory <b>Homework 1 due</b>	BKM 6.1-6.2
4. Thursday June 4	Portfolio Theory	BKM 6.3-6.4
5. Tuesday June 9	The Capital Asset Pricing Model <b>Homework 2 due</b>	BKM 7.1
6. Thursday June 11	Market Efficiency Midterm Review	
7. Tuesday June 16	<b>Midterm</b> Equity Valuation	BKM 13.1-13.4
8. Thursday June 18	Midterm Evaluation Arbitrage Fixed Income Securities <b>Investment game due</b>	BKM 10.1-10.2 BKM 10.3-13.4
9. Tuesday June 23	Fixed Income Securities <b>Homework 3 due</b>	BKM 10.6, 11.1-11.2
10. Thursday June 25	Options	BKM 15.1-15.2
11. Tuesday June 30	Options Final Review <b>Homework 4 due</b>	BKM 16.1-16.4
12. Thursday July 2	<b>Final Exam</b>	