

Syllabus - Foundations of Financial Markets

Fall Semester 2013

FINC-UB.0002 Sections 06 and 07

1 Instructor

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Office Hours: TBA

2 Teaching Assistants

There are two teaching assistants. One will sit in each section, as indicated below, but *both* are responsible for the two sections and will make themselves available for answering your questions :

Section 06: Kevin Seok-Hyun Mun (seokhyun.mun@stern.nyu.edu)

Section 07: Kriti Jain (kriti.jain@nyu.edu)

Their office hours will be announced on our Classes site and in the first class. You are welcome to go to each of them with questions.

3 Class Time

The class meets twice per week on Tues and Thurs from 2:00-3:15 (Section 06) and 3:30-4:45 (Section 07). The classroom is T-201.

The first class is on Tues Sept 03. The last class is on Thurs Dec 12.

There are no classes on Oct 15 and Nov 28 (Thanksgiving).

The Final Exam for Section 06 is scheduled for Dec 17 (Tues) from 2:00-3:50 pm.

The Final Exam for Section 07 is scheduled for Dec 19 (Thurs) from 4:00-5:50 pm.

Attendance and Classroom Civility Attendance is mandatory and counts towards class participation. If you must miss a class or arrive late, please let the teaching assistant responsible for your section know by e-mail beforehand. Your behavior in class should respect your classmates' desire to learn. Each lecture begins and ends exactly on time. I understand your busy schedules, but try not to come late. Because of the classroom layout, it is disruptive no matter how quiet you are. Laptops, cell phones, 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', please turn it 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.

4 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 our Classes site. The course pack contains all powerpoint slides that I use in class, handouts with important material covered in class, problem sets, and practice exams.

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, 9th edition.
- 2 "Solutions Manual for use with Essentials of 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, 6th edition (ISBN: 9780390169501)

We will mainly use [1], abbreviated BKM below. If you have an *earlier edition* of BKM (eight, seventh or sixth), 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. The main role of the textbooks is to serve as a source where you can review the material. 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 5 and 6 from book [3], abbreviated RWJ. These two chapters come as a *supplement* in the class material packet if you purchased your class material through the bookstore. The supplement [3] will only be used in classes 3 and 4. If you did not buy [1] through the bookstore, you can purchase [3] separately on the publisher's web site.¹

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. On our NYU Classes site I will post some links to recent articles in the financial press that complement the lectures.

5 Calculator and Excel

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 either of these. Standard financial calculators include the HP 12C, the HP 10B-II and the TI BA-II Plus. 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. You can also ask the teaching assistants for help.

Every student of Stern is expected to be comfortable with EXCEL tools. In particular any Finance area major is expected to have a knowledge of these tools that extends beyond familiarity to an awareness of the uses, and limitations, of this technology.

6 Communication

The class site is on NYU Classes at <https://newclasses.nyu.edu/>. This is the central location where all teaching materials are posted. TA office hours and class announcements will be posted here. Solutions to the problem set will be posted no later than one week after the due date; they will 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.

¹Go to <https://create.mcgraw-hill.com/shop/>. Enter the ISBN number given above. The booklet is found under "Professor Stijn van Nieuwerburgh"'s name. It costs \$14.63.

7 Exams and Assignments

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. 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.

Grades Grades will be based on the final exam (45 percent), the midterm exam (30 percent), problem sets (20 percent) and class participation (5 percent). Class participation is strongly recommended as it will be accounted for in the determination of the final grade. Inappropriate classroom behavior (such as coming late repeatedly, disrupting the class, etc.) will negatively affect your final grade.

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. Any requests will lead the professor to regrade the *entire exam*. A regrading process can thus lead to a *lower grade*.

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 concept questions, the readings, the problem sets, the sample exams (located in your course pack behind the homework), and preferably also the suggested problem sets. 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 verbatim. 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. If you must miss an exam, you will be required to make it up after the semester is over. No laptops, tablets, or phones may be used during the exam.

Due to University regulations as confirmed through the Dean's office, *students must take the final examination with their assigned Section*. Unfortunately, the Professor has no discretion on this matter.

Concept Questions Concept questions related to the class material are posted on Blackboard under *course documents*. The concept questions test your understanding of the main concepts taught in the class of that day. Usually, there are around 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 do **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. Solutions to the concept questions are also posted on our NYU Classes site.

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 either not be accepted or will incur a grade penalty unless due to documented serious illness or family emergency. Exceptions to this policy for reasons of religious observance or civic obligation will only be made available when the assignment cannot reasonably be completed prior to the due date and you make arrangements for late submission in advance. *You are allowed to work in groups on the problems, but you must writeup 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 submit 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 are in the same spirit of the exam questions, but slightly easier. After all, they are your first encounter with the implementation of the material.

Suggested Problems Suggested problems are also posted on NYU Classes. These questions are intended you give you extra practice over and above the homework. You do **not**

have to turn them in, and there is no credit for them. You can look up solutions in your solution manual [2]. The solutions to the questions in the RWJ booklet (class 2) are included in your course pack. **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.

8 Course Content and Class Schedule

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.

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.

Prerequisites Students must be comfortable with statistics, algebra, calculus, and microeconomics. Students are strongly encouraged to study the review handouts on statistics at the beginning of the semester (Handouts **H9** and **H10**; the handouts are located at the end of your course pack).

Detailed Outline Below is a detailed schedule of the date and topic of each class. The main readings that go with each class are indicated by MR. Extra readings, for those who are interested, are indicated by ER. The readings starting with 'H' are handouts, situated at the end of your course packet. Some of the handouts are pure review. Others go beyond the material covered in class. You will be responsible **only** for material covered in the lectures and on the homeworks. Therefore, if you find that a particular handout is not helpful to you, you can skip it. Homework due dates are also listed below.

Class 1: Financial Instruments (Tue 09/03)

Overview of class, Financial Instruments

MR: Syllabus, BKM 1.1-4

ER: BKM 1.5-7, 2

Class 2: Financial Markets (Thu 09/5)

Financial Markets

MR: BKM 3.1-4, 3.7, 3.9, H1

ER: BKM 3.5, 3.6, 3.8, 3.10

Class 3: Performance of Securities (Tue 09/10)

PV, FV, annuities, perpetuities

MR: **RWJ** 4, 5.1-2, H2-3

Class 4: Performance of Securities (Thu 09/12)

Compounding and Return measures

MR: **RWJ** 5.3-4, BKM 5.1-2,5.4, H4-8

ER: BKM 5.3

Class 5: Mathematics and Statistics - Review (Tue 09/17)

Basic statistics, series, optimization

MR: H9-12

Class 6: Portfolio Theory (Thu 09/19)

Positions and Portfolio Returns, Efficient Portfolios with Two Risky Securities

MR: H6-8, BKM 5.5, BKM 6.1-2, H13-14

Class 7: Portfolio Theory (Tue 09/24)

Efficient Portfolios with Two Risky Securities, Optimal Portfolios and Investor Preferences

MR: BKM 6.1-2, H13-14, BKM 5.2

Homework 1 is due in class.

Class 8: Portfolio Theory (Thu 9/26)

Efficient and Optimal Portfolios with Riskless Asset

MR: BKM 5.5-6, 6.3-4

Class 9: Portfolio Theory (Tue 10/01)

Efficient and Optimal Portfolios w/ Multiple Risky Assets, Introduction to Capital Asset Pricing Model

MR: BKM 6.4-5, H15-16, BKM 7.1

ER: BKM 6.6

Class 10: Capital Asset Pricing Model (Thu 10/3)

The Capital Asset Pricing Model

RR: BKM 7.1-2

Class 11: Capital Asset Pricing Model (Tue 10/8)

Applications of the CAPM

MR: BKM: 7.4, H17

ER: BKM 7.3

Class 12: Capital Asset Pricing Model (Thu 10/10)

Applications of the CAPM
MR: BKM: 7.5, H17
Homework 2 is due in class.

Class 13: Capital Asset Pricing Model and Beyond (Thu 10/17)
Applications of the CAPM
MR: BKM 8

Class 14: Review (Tue 10/22)
Pre-midterm review

Class 15: Midterm (Thu 10/24)
Midterm exam.

Class 16: Equity Valuation (Tue 10/29)
Dividend Discount Models and Valuation Ratios, Midterm evaluation (20 mins)
MR: BKM 13.1-4, H19-20
ER: BKM 13.5-6

Class 17: Equity Valuation (Thu 10/31)
Dividend Discount Models and Valuation Ratios
MR: BKM 13.1-4, H19-20
ER: BKM 13.5-6

Class 18: Arbitrage (Tue 11/05)
Arbitrage and the Law of One Price
MR: H18

Class 19: Fixed Income Securities (Thu 11/07)
Bond Prices and Yields
MR: BKM 10.1-4, H21-22
ER: BKM 10.5

Class 20: Fixed Income Securities (Tue 11/12)
Bond returns, Forward Rates, and Yield Curve Theories
MR: BKM 10.6, H23-24

Class 21: Fixed Income Securities (Thu 11/14)
Yield Curve Theories and Duration
MR: BKM 11.1-3, H25-26
ER: BKM 11.4

Class 22: Fixed Income Securities (Tue 11/19)

Duration and Immunization

MR: BKM 11.1-3, H26-27

ER: BKM 11.4

Class 23: Options (Tue 11/21)

Options Basics and Strategies

MR: BKM 15.1-2, H28

Homework 3 is due in class.

Class 24: Options (Tue 11/26)

Options Strategies and Minimum Value

MR: BKM 15.2, 16.1, H29-30

ER: BKM 15.3-4

Class 25: Options (Tue 12/03)

Black-Scholes Option Pricing Formula

MR: BKM 16.2-4

ER: BKM 16.5

Class 26: Options and Futures (Thu 12/05)

Futures

R: BKM 17.1, 17.3-5, H31

ER: BKM 17.2

Class 27: Futures (Tue 12/10)

Futures

MR: BKM 17.5-6

Homework 4 is due in class.

Class 28: Review (Thu 12/12)

Pre-final review

Final Exam (Section 06: Tue 12/17, Section 07: Thu 12/19)