

Syllabus: Foundations of Finance

Summer 2015

FINC-UB.0002.03

Instructor

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Weekly Office Hours: Monday 3-5pm at the Gruber Conference Room (KMC 9-191)

Pre-exam Office Hours: 3-5pm on July 22 and August 12 at the Gruber Conference Room (KMC 9-191)

Class Time and Location

The class meets Tuesdays and Thursdays 12.20-3.30pm.

Room: Tisch UC 21

The first class is on Tuesday July 7, the final exam is in class on Thursday August 13.

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) at 998-4980 or <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 set of lecture slides and the course pack. Electronic versions of these materials will also be posted on NYU Classes (see below). Lecture slides will be distributed at the beginning of each class. The course pack will be distributed in the first class. It contains a set of slides for the financial calculator tutorial, problem sets, practice exams, additional practice questions, and handouts with important material covered in class.

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 to accompany Essentials of Investments” by Zvi Bodie, Alex Kane, Alan J. Marcus, 9th edition
- 3 Selected Materials from “Essentials of Corporate Finance” by Stephen A. Ross, Randolph W. Westerfield, Bradford D. Jordan, 8th 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 website.

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 no later than one week after the due date; they will not be distributed in paper form in class.

The class website also contains the concept questions (see below), suggested problems, and some finance links and articles.

Grading

Your grade will be based on classroom participation, a set of homework assignments, a midterm exam, and a final exam. Participation will be worth 10%. Homework assignment will be worth 20%. The midterm exam will be worth 30% and cover most of the material presented in the first 5 classes. The final will be worth 40% and cover all material presented post-midterm. However, if your final exam score in percentage terms is better than your midterm score in percentage terms, the final will count for the entire 70%.

Grading Policy 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.

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.

Exams and Assignments

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 *not cumulative* per se, but will touch on related materials from before the midterm exam.

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. Some problem sets contain an 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 Concept questions ordered by topic are posted on NYU 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 these concept questions are also posted on NYU Classes.

Suggested Problems Suggested problems are included in the course pack, and also 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. 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.

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. At appropriate points we will relate the course material to current financial news.

Prerequisites Students must be comfortable with statistics, linear algebra, calculus, and microeconomics. Students are strongly encouraged to study the review handout on statistics at the beginning of the semester (Handout **H9**); the handouts are located at the end of your course pack). You can also look at the Quantitative Review in appendix A of BKM to help you review the statistics material.

Detailed Outline Below is a detailed schedule of the date and topic of each class. Readings starting with H are handouts, situated at the end of your course pack. 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 homework assignments. Therefore, if you find that a particular handout is not helpful to you, you can skip it. Homework due dates are also mentioned.

Tentative Schedule

Class	Topic	Material
1. Tuesday July 7	Financial Instruments Financial Markets	BKM 1.1-1.4 BKM 2.1-2.3, 3.2, H1
2. Thursday July 9	Time Value of Money Performance of Securities	RWJ 4, H2-3 BKM 5.1, RWJ 5.1-5.2, H4-8
3. Tuesday July 14	Portfolio Theory Homework 1 is due in class.	BKM 6.1-6.2, H13-14
4. Thursday July 16	Portfolio Theory	BKM 6.3-6.4, H15-16
5. Tuesday July 21	Capital Asset Pricing Model Homework 2 is due in class.	BKM 7.1, H17
6. Thursday July 23	Midterm exam (in class) Arbitrage	BKM 10.1-10.2, H18
7. Tuesday July 28	Midterm Evaluation Equity Valuation Fixed Income Securities	BKM 13.1-13.4, H19-20 BKM 10.3-13.4
8. Thursday July 30	Fixed Income Securities and Options Homework 3 is due in class.	BKM 10.6, 11.1-11.2
9. Tuesday August 4	Options	BKM 15.1-15.2
10. Thursday August 6	Options, Futures and Swaps	BKM 16.1-16.4
11. Tuesday August 11	Market Efficiency Final Review Homework 4 is due in class.	BKM 8
12. Thursday August 13	Final Exam (in class)	