Foundations of Finance (COR1-GB.2311)
Spring 2015

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SYLLABUS

Texts

(BKM) Bodie, Kane and Marcus, *Essentials of Investments*, 9th edition, Irwin, 2013.
(RWJ) Ross, Westerfield and Jordan, *Fundamentals of Corporate Finance, CUSTOM VERSION (includes chapters 4,5 and 8).*
(G) Garbade, *Securities Markets, CUSTOM VERSION*
(H) Handout Packet (Note: BRING THIS TO EVERY CLASS).

Course Description

This is an analytical course introducing the fundamental principles of asset valuation within the framework of modern portfolio theory. The key analytical principles are present value, option value, risk/diversification and arbitrage. These quantitative tools are used to value stocks, bonds, options, and other derivatives, with applications to portfolio selection, risk management, and market structure.

Prerequisites

This course assumes no prior background in finance but you are expected to have an understanding of basic economic and statistical concepts beforehand. From economics you should understand supply and demand curves, including how shifts in the curves change the equilibrium price. You will also need indifference curves from the core economics class. From statistics you should understand mean, standard deviation, covariance and correlation as descriptive statistics as well as the regression coefficient as a summary statistic. You will also need probability statements based on the area under the normal curve. This material is covered in the statistics core class but it is also summarized in the statistics primer on the course web site.

Before and After Book

This pamphlet, distributed on the first day of class, provides an outline of sub-topics covered in each lecture, key new words and definitions, and a list of concept questions that relate to each topic. Use the pamphlet *before* reading the assigned material to set the stage and *after* to check your comprehension

Emails

Check your email regularly for weekly outlines from me and other announcements

Calendar

Check the course calendar in the Handout Packet or in the course website for scheduled alterations in regular class meetings. In addition, the calendar lists dates for the mid term, final, and other deliverables.

TA Review Sessions

Thursday, 4:30-5:50, Room 2-70, KMC

Web Reference

The course web site can be found under *courses* at www.stern.nyu.edu/~wsilber.

Location Guide

Class Videos: Available on my web site. My Office: Room 965 in KMC TA Office: 7^{th} floor in KMC

Grades and Exams

The distribution of grades, as mandated by the finance department is as follows: A, A- : Between 20 and 25 percent of the class; C+ and lower: Between 10 and 15 percent of the class; B+, B, B-: the remainder.

Grades will be based on a mid-term exam (42.5%), a final exam (42.5%) and problem sets (15%). The "Market Tracking Assignment" (see the next item in the Handout Packet) will form the basis of about 10% of the questions on each exam. Also see the discussion under Classroom Responsibilities below.

The mid-term and final are *not* cumulative. You must take them both. You must be present at the mid-term and final exam dates. *There will be no make-up exams during the semester*. If you miss any exam you will have to wait until the beginning of the next semester for a make-up.

If you have a qualified disability and will require academic accommodation for an exam please contact the Moses Center for Students with Disabilities (CSD, 998-4980) and provide me with a letter from them verifying your registration and outlining the accommodations they recommend.

Group Study

You are strongly advised to set up study groups to review the course material EACH WEEK. Do not wait until the exam. It is too late. You may also do your homework problems together. A minimum of three people is recommended for each study group. Try to include *at least* one non-finance major in every study group. A good studying strategy is to review the concept questions after each topic is covered in class, making certain that EVERY member of the group leads the answer to one question.

Problem Sets

A pamphlet with Problem Sets for the entire term will be distributed on the first day of class. The problems are designed to provide numerical drill to complement the conceptual class discussions and are NOT supposed to be representative of exam questions. You **must submit handwritten answers** (no word processors or photocopies) to each set (I-IV), and to the Real Time Exercise, when they are due, as indicated in the course outline below. *Late submissions will not be accepted*. You will receive full credit (3% per set) if you have made a good faith effort to answer the questions, whether or not the answers are correct. Partial credit will *not* be awarded.

Calculator

You will need a calculator that has net present value, internal rate of return, yield to maturity, natural logarithm and exponetial functions. An HP10bII is sufficient for this class. You are expected to learn how to use a calculator on your own. You will need it for homework and exams (**only a financial calculator is permitted on exams -- no laptops, ipads, iphones, blackberries**).

Honor Code

You are responsible for maintaining Stern's honor code which mandates zero tolerance for cheating. Violations of the honor code will be prosecuted with a minimum penalty of failure for the course as required by honor code rules. As indicated above, you may work in groups on your homework problems but you must submit your own handwritten answers. The exams are closed book. You may bring to the exams only a writing implement and your financial calculator. In the event that your calculator is programmable you may NOT enter any formulae or data. If you become aware of any violations of the honor code you must take whatever steps are necessary to stop the violators.

Classroom Responsibilities and Civility

Approach each class as though you were attending an important business meeting – prepare, arrive on time, participate, but do not try to dominate. Arrange your affairs so that you do not leave the room during class (if you have a medical problem see me at the start of the semester). Here are some specific guidelines designed to promote a beneficial classroom experience:

Class Participation: Students learn from questions asked by other students as well as by answers from classmates, whether or not the proposed answers are correct. Therefore, **you have a responsibility to come to class** and participate in the discussions. I will encourage class participation to the best of my ability, turning to forced compliance only after friendly persuasion fails.

No Late Seating: Each lecture begins exactly on time. Latecomers disrupt the class no matter how quietly they enter. Therefore, once the lecture begins, and the NO ADMITTANCE sign is posted on the door, please do not try to enter the class. You will not be admitted. Watch the class on video if you cannot make it on time. Absence from class should not be a routine practice, however. Classroom participation is an important responsibility. **Excessive absences will be penalized.**

Side Conversations: Do not engage in side conversations during the lecture, even in a whisper. They are distracting to me and to your fellow students and will not be tolerated.

No Laptops, ipads, or ANY email / internet devices: Laptops, ipads, iphones, or other communications devices are distracting to your fellow classmates. Please do not bring them into class. If you are carrying one of these devices please make sure they are completely shut (see the next item). If you want to use a laptop for taking notes during class see me at the beginning of the semester.

Cell Phone and Related Disturbances: You will be fined $25 (towards a year end lunch party) if any ‘audible alert device’ creates a disturbances during class time. Disturbance is broadly interpreted to mean just about ANYTHING, such as an audible signal (a ring or a song), vibration, tap-tap-tap, plus what ever else diverts our attention. Try not to provide financial support for our end-of-semester celebration.

Failure to meet your classroom responsibilities may adversely affect your grade

COURSE OUTLINE

Note: A star (*) next to a Handout entry means you must prepare this item for classroom discussion

1. *Overview and Market Structure* (2 Sessions)
   BKM: Chapter 3; also skim Chapters 1 and 2
   H: Readings # 1*, 2, 3*

2. *Present Value, Yields and Returns* (1 1/2 Sessions)
   RWJ: Chapter 4, 5.
   BKM: Section 1 in Chapter 5 (except p.113), Section 4 in Chapter 5, p.293, and p. 306.
   H: Reading # 4*, 5*, 6*, 7*, 8*, 9

3. *Equilibrium One Period Yields* (1/2 Session)
   BKM: Sections 3, 4 and 5 in Chapter 12 and Section 4 in Chapter 5 (again)

4. *Arbitrage and the Law of One Price* (1 1/2 Sessions)
   BKM: Section 2 in Chapter 19 (until p. 620)
   H: Readings # 10, 11*, 12*, 13

HAND IN PROBLEM SET I

5. *Portfolio Analysis*
   a. *Two Risky Securities* (2 1/2 Sessions)
      G: pp. 111-116, 122-131, 131-137, 145-155
      BKM: Chapter 5 (Sec. 2, 3), Chapter 6 (Sec. 1, 2)
      H: Readings # 14, 15*, 16*, 17*, 18*, 19*

   b. *Risk Free and Multiple Risky Securities (2 Sessions)*
      G: pp. 160-164, 165-174
      BKM: Chapter 5 (Sec. 5), Chapter 6 (Sec. 3, 4, 5, 6)
      H: Readings # 20*, 21, 22*, 23*
      Email: Open Portfolio Optimizer Program and experiment with it

6. *Capital Market Equilibrium* (2 Sessions)

G: pp. 179-189, 199-210, 174-176, 213-219

BKM: Chapter 7 (Sec. 1, 2, 3, 4), Chapter 18 (Sec. 1)

H: Reading # 24*, 25

HAND IN PROBLEM SET II (make a copy for yourself)

MID-TERM EXAM (1 Session)

7. *Introduction to Capital Budgeting (1 Session)*

RWJ: Chapter 8

H: Reading # 27*

8. *Common Stock Valuation* (1 1/2 Sessions)

BKM: Chapter 13 (pp. 405-415, 420-426)

H: Readings # 28*, 29

Web: Visit www.yahoo.com ,click on finance, enter a stock symbol, look at 'profile' to view company characteristics

COLLECT DATA ON REAL TIME EXERCISE

SUBMIT MARKET TRACKING CONTEST

9. *Fixed Income Securities*

a. *Yield Calculations* (1 1/2 Sessions)

BKM: Chapter 10 (pp. 293-294, Sec. 2, 3, 4) and Chapter 2 (pp. 27-28)

H: Readings # 30*, 31*, 32*, 33, 34

HAND IN REAL TIME EXERCISE

b. *Yield Curve and Forward Rates* (2 Sessions)

BKM: Chapter 10 (Sec. 6)

H: Readings # 35*, 36, 37*, 38*, 39*, 40*, 41

c. *Duration* (1 Session)

BKM: Chapter 11 (Sec. 1, 2, 3)

H: Readings # 42*, 43, 44*

d. *Swaps* (1 Session)

BKM: pp. 584-586

H: Readings # 45*, 46*, 47*

e. *Risk and Tax Structure* [**Required Reading Assignment**]

BKM: Chapter 10 (Sec. 1, 5), Chapter 2 (Sec. 2)

HAND IN PROBLEM SET III

10. *Options* (3 1/2 Sessions)

BKM: Chapters 15 (except pp. 494-496), 16 (*except* Sec. 2)

H: Readings # 48*, 49, 50*, 51*, 52*, 53*, 54

Web: Visit http://www.option-price.com/index.php to price options

11. *Efficiency* (1 Session)

BKM: Chapter 8

H: Readings # 55

HAND IN PROBLEM SET IV (Make a copy for yourself)

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FOR YOUR READING PLEASURE

Peter Bernstein's *Capital Ideas* (Wiley, 2005**)** provides a wonderful overview of how the great ideas of finance arose. His book is the best way to appreciate the revolution in finance during the past half century. Burton Malkiel's *A Random Walk Down Wall Street* (Norton 2011) is the only investment guide you will ever need. He sells nothing but sound advice. Nate Silver's *The Signal and the Noise* (Penguin, 2012) investigates how we can distinguish "a true signal from a universe of noisy data" **--** a nice complement to Malkiel plus insights on politics, baseball, and poker. Roger Lowenstein's *When Genius Failed* (Random House, 2000) is a best seller about the best and the brightest in finance. It contains an important cautionary message. My book, *VOLCKER: The Triumph of Persistence* (Bloomsbury, 2012), is two stories in one. On the surface it is the biography of a man, Paul Volcker, former Chairman of the Federal Reserve Board, who served five presidents while confronting the three greatest crises in American finance over the past half century – the break with gold in 1971, double digit inflation in 1979, and the world financial crisis that began in 2007. But on a deeper level it is about trust. Read it for the history and the lessons.

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