Syllabus: Foundations of Finance

New York University, Stern School of Business
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The course is a rigorous, quantitative introduction to financial market structure and financial asset valuation. The main topics of the course are financial markets, arbitrage, portfolio selection, equilibrium asset pricing, fixed income securities and option 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.

1 Practical Issues

Time:
The class meets twice a week (M and W), from July 1st 2009 to August 10 2009. Each meeting contains 2 sessions A and B.

Blackboard:
Announcements, readings, notes, problem sets (one week before the relevant due date) and the solutions (after the relevant due date) will be posted on my blackboard course page throughout the course so please check it regularly.

Teaching Assistants:
Jason Levine (PhD candidate)
Email: jlevine@stern.nyu.edu
Office: 212-998-0314
Mobile: 203-482-2188
There will be "virtual office hours" with the TA each T and TH from 9:30 P.M to 10:30 P.M starting July 7

Office Hours:
I will be available immediately after class for questions. You are welcome to set up an appointment with me by email.

Classroom:
Your behavior should respect your classmates desire to learn. Each lecture begins exactly on time. Try not to come late. If you carry a cell phone, turn it off before entering class.

Optional classes:
There will be <u>additional optional</u> class: Statistics review

2 Grading and Studying

Grading:
Grades will be based on the final exam (45%), the midterm exam (30%) and problem sets (25%).

Problem Sets:
There will be 5 problem sets. You will be rewarded full credit on a problem set if you have made a good-faith effort to answer all of the questions, and if you hand in your answers on time. Late problem sets will not be accepted. Although you are encouraged to work in groups on the problem sets, you must hand in your own answers. You will get the highest score for the problem sets if you get credit on 4 problem sets out of 5 (in other words, you are allowed to miss 1 problem set).

The course website contains *suggested* additional problems and *Challenging* Problems. These additional problems are optional and will not be graded. These questions are intended to give you extra practice over and above the home-work. You do not have to turn them in, and there is no credit for them. You can look up solutions in your solution manual.

Exams:
The course has a midterm and a final exam. The final exam is cumulative. You will be allowed one double-sided page of notes at the midterm and two double-sided pages of notes for the final exam. Neither laptops nor palm pilots/ mobiles are allowed on the exam. To prepare for these exams, you should review the key issues discussed in class, in the readings and in the handouts, review the problem sets you handed in, look at the suggested problem sets and suggested readings and do the sample exam.

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

Prerequisites:
This is a core course that assumes no prior background in finance. However, I will assume you are already familiar with basic algebra and basic calculus. You are also expected to have an understanding of basic economic and statistical concepts beforehand. From economics you should understand supply and demand curves. From statistics you should understand mean, standard deviation, covariance, correlation, and regression models. Since you will have to use Excel to complete the problem sets, you should be willing to learn to use Excel on your own if you are not already familiar with it.

3 Textbooks and Calculator

Textbooks
1. Bodie, Kane, and Marcus, "Investments"
2. "Solutions Manual for use with "Investments."
3. Ross, Westerfield, and Jordan, "Essentials of Corporate Finance," Custom Edition.

Calculators
You need a calculator for this class. It is an advantage to have a financial calculator, but not a requirement. You are expected to learn how to use a calculator on your own.

4 Getting to Know You

In order to know you better I would appreciate that you fill out the "Getting to Know You" sheet distributed in class.
Thank you for your cooperation.

5 Tentative Class Schedule

Legend:

Readings:

BKM: Bodie, Kane, and Marcus, "Investments"
RWJ: Ross, Westerfield, and Jordan, "Essentials of Corporate Finance," Custom Edition.
(for solutions – see Blackboard)
RR : Required Reading
SR : Suggested Reading

Problem sets:

RPS : Graded problem sets. (Listed *on due date*.)
⊔ : Suggested problems, not graded. (Listed *with related topic*.)

Tentative Dates and Time:

Examples:
  Readings: "BKM 1" means all of Chapter 1;
  Readings: "BKM 3.8, 5." means Chapter 3 Section 3.8, and all of Chapter 5.
  Problems: "BKM 3.6." means Chapter 3, Problem 6.

Date	Topic	Readings	Problems
July 1 -A-	*Overview of class Financial Instruments*	SR:BKM 1, 2.	
July 1 -B-	*Financial Markets – How Securities Are Traded*	RR: BKM 3.1-3.5. SR: BKM 3.6-3.8	⊔BKM 3.1, 3.6..
July 6 -A-	*Guest Lecture: Paul Bennett: former Chief Economist of the NYSE*		Getting to Know You
July 6 -B-	*Time value of money*	RR: RWJ 4, 5.1, 5.2.	⊔ RWJ (Q&P) 4.1, 4.2, 4.11, 4.18, 4.24, 4.25, 5.4, 5.10, 5.11, 5.33.

	Date/Time	Topic	Reading	Problems
O	July 8 5:15-5:50	Statistics Review -OPTIONAL-		
	July 8 -A-	Time Value of Money Risk and Expected Return	RR: BKM 5.2, 5.5, 5.6 SR: RWJ 5.4.	**RPS P01** BKM 5.4 RWJ (Q&P) 5.12, 5.14 Challenging 1
	July 8 -B-	Portfolio Selection with 2 risky securities	RR: BKM 7.1-7.2.	
	July 13 -A-	Portfolio selection with two risky securities, continued.	RR: BKM 7.1-7.2.	
	July 13 -B-	Portfolio Selection with a riskless security	RR: BKM 7.3.	BKM 7.13
	July 15 -A-	Portfolio selection with multiple risky securities	RR: BKM 7.4	**RPS P02** BKM 7.20, 7.25, 7.30 a and d
	July 15 -B-	The Capital Asset Pricing Model	RR: BKM 9.1, 9.3, 9.4.	
	July 20 -A-	The Capital Asset Pricing Model, continued.	RR: BKM 9.1, 9.3, 9.4.	BKM 9.4, 9.6, 9.7, 9.8, 9.9, 9.10
	July 20 -B-	The Capital Asset Pricing Model, continued. Review Session.	RR: BKM 9.1, 9.3, 9.4.	BKM 9.19, 9.20 Sample Midterm
	July 22 -A -	**Midterm (75 minutes)**		**RPS P03**
	July 22 -B-	Equity evaluation	RR:BKM 18.2, 18.3. SR: BKM 18	BKM 18.1, 18.6a, 18.16[a]

July 27 -A-	Solution of the midterm		
July 27 -B-	Fixed income securities: Prices and yields	SR: BKM 14.1 RR: BKM 14.2-14.3.	BKM 14.3, 14.4
July 29 -A-	Fixed income securities: Prices and yields, continued.	RR:BKM 14.3-14.4	**RPS PO4** Collect from your bank time deposit rates for 6 months and one year. BKM 14.8(a only)
July 29 -B-	Fixed income securities: Yield curve and forward rates.	RR:BKM 15.	BKM 15.4, 15.8a, 15.21
August 3 -A-	Interest rate risk: Duration and immunization	RR:BKM 16.1-16.3.	Challenging2 BKM 16.2, 16.11 a,b
August 3 -B-	Options	RR: BKM 20.1-20.2. SR: BKM 20.3	
August 5 -A-	Put-Call Parity and Binomial Option Pricing	RR:BKM 20.4. RR:BKM 21.3	**RPS PO5** BKM 20.21, 21.2 (a-e)
August 5 -B-	Market efficiency Final Review	RR:BKM 12.1 and 11.	
August 10 -A-	Market efficiency	RR:BKM 12.1 and 11.	
August 10	**Final Exam (120 minutes)**	All of the above.	

GETTING TO KNOW YOU

- Name:_____

- What are your expectations from the class?

- What are your expectations from your career?