

DEPARTMENT OF FINANCE
MCCOMBS SCHOOL OF BUSINESS
UNIVERSITY OF TEXAS AT AUSTIN

Finance 397.1 - Investment Theory and Practice

Spring 2009

Monday & Wednesday 9:30 – 11:00 GSB 5.142, unique #03175

Monday & Wednesday 11:00 – 12:30 GSB 5.142, unique #03180

Professor: Shimon Kogan

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Class website: Blackboard

Office Hours: Tuesday, 4:00 – 6:00

TAs: Julio Riutort and Harvey Jing

TA office hours and location: to be determined

Course Description

Finance 397.1 is an introductory survey investments course. The course covers the primary financial securities - stocks (equity), bonds (fixed income and/or debt), and options (derivatives) – and methods for combining these underlying assets into a portfolio (portfolio theory). The first half of the course covers general overview material, security analysis, portfolio theory, and equilibrium models of capital markets. The second half of the course is devoted to fixed income analysis and derivatives (futures and options). Students will get an opportunity to apply the concepts learned in class through an ongoing group portfolio project.

We will first cover the overall layout of the U.S. financial markets and the financial instruments available in the markets. After this overview we will go directly into the study of equity securities (stocks). The course will cover various methods of security analysis and valuation methods including financial statement analysis, dividend growth models, valuation multiples (P/E, EBITDA multiples), and DCF valuation methods. Following our work on security analysis we will go directly into the study of portfolio theory and equilibrium models of capital markets. After discussing security analysis and portfolio construction, we will then look at market efficiency issues and the process of judging portfolio performance.

Following global trip week and spring break, we will take up the study of fixed income instruments (bonds). Bonds pay a fixed amount of interest on a set schedule to investors, and thus valuation and pricing of bonds is in many ways an application of the time value of money. For this fixed income section of the course we will be using the Tuckman book (described in the required materials section of the syllabus), which works through pricing by discount factors, and the notion of spot and forward rates along the curve. To gain a deeper understanding of the yield curve and its role in the analysis of virtually all fixed income in-

struments, we will bootstrap a yield curve using a polynomial regression function and use this bootstrapped yield curve to price and analyze a couple of bonds.

After the fixed income section of the course we take up derivative securities (options, futures, and swaps). The options material will include an analysis of the uses of options to construct various payoff schemes generally unavailable with stocks and bonds, and will cover the construction and use of option pricing models such as the Black-Scholes Option Pricing Model and the Binomial Option Pricing Model. Following our study of options we will cover futures contracts, and look at the use of derivative instruments in hedging risk. The course will conclude with a final exam that will be cumulative and will test student's knowledge on all of the material covered in the course.

Course Requirements and Grading

Grades will be based on the student's performance on the three problem sets, the ongoing portfolio project, the final exam, and class participation. The weights on each component of the overall course grade are as follows:

Security Analysis Problem Set	Wednesday, Feb 11	15%
Portfolio Theory Problem Set	Monday, Feb 23	10%
Fixed Income Problem Set	Monday, April 20	15%
Portfolio Project	ongoing	20%
Final exam	University Schedule	35%
Class Participation	ongoing	5%

Make-up and extra-credit assignments are generally not possible. Your grade will be determined solely by the components listed above. If you fail to turn in portfolio assignments or problem sets when they are due you will not be able to make up the assignment or the points.

Problems from the text will be assigned and occasionally discussed in class, but will not be graded. The problems assigned will be useful as study guides for the exam. I will post solutions to the end-of-chapter problems on the blackboard site.

Class Attendance, Participation, and the use of laptop computers in class

I expect you to come to class having read the chapter and readings for the day. If you miss more than four classes without some form of prior approval from me, I reserve the right to drop your grade by one letter grade (e.g., an A drops to a B, an A- to a B-, etc.). If you miss more than six classes, I reserve the right to fail you so that you may take the class again when it is more convenient for you.

You cannot use your laptops in class; it just doesn't seem to work.

Course Materials

The main required text for the course, available at the Co-op, is:

Investments, Bodie, Kane, and Marcus, Seventh Edition, © 2008, McGraw-Hill.

A recommended, but not required, book is:

Fixed Income Securities, Bruce Tuckman, 2nd Edition, 2002, John Wiley & Sons.

This Tuckman book is available on-line through Amazon for a reasonable price. You can also sometimes pick up a used copy on-line. Additionally, you can purchase the necessary chapters on a per-chapter basis for \$4.50/chapter at the following website:

<http://www.garpdigitallibrary.org/display/author.asp?aid=75>

This is the website for the GARP Digital Library, where you can find the book in case this particular web address does not work.

Guest Speakers

Prof. Hallman and I have arranged for three guest speakers to come and provide their perspective as leading practitioners on various investment related topics. Due to the logistics involved in arranging these talks, we will combine sections on the days scheduled for the talks. To minimize conflict with other classes, these talks are scheduled for the late afternoon. Please take a note of these dates to ensure your attendance. We will have question(s) on the final exam related to materials that will be covered exclusively in these talks.

Investments class coordination

Prof. Hallman and I are coordinating the teaching of our sections of this course such that both he and I cover the same material and require the same workload. Further, we intend to draw on each other's expertise by cross-teaching specific topics. For example, in the first half of the course Prof. Hallman will cover the Security Valuation Example while I will cover Market Efficiency and Empirical Evidence on Equilibrium Pricing Models.

Portfolio Project

Set-up

Student teams of 3-5 members will invest a fictitious \$1,000,000 in 10 stocks and 5 bonds, with \$600,000 invested in stocks (\$60,000 in each stock) and \$400,000 invested in bonds

(\$80,000 in each bond). Portfolio teams are encouraged to trade the portfolio over the course of the semester as economic and firm-specific factors change.

Deliverables for the Portfolio Project

- 1) Wednesday, February 4 - submit team portfolio selections. Purchase the stocks and bonds for your portfolio through Stocktrak on Friday, January 30. The portfolio selection memo due on the 4th will contain the team's picks – 10 stocks and 5 bonds – and a short paragraph on each of the 10 stock picks explaining why the team believes the stock will perform well over the next three months. You do not need to explain your bond selection, and in fact the TAs will email you a “default” bond position you may use in place of choosing the bonds yourself. The portfolio selection memo will be no longer than five pages.
- 2) March 4, March 30, and April 27 - submit a three to five page memo (five pages max) containing, but not necessarily limited to, the following items:
 - ◆ A table summarizing portfolio performance for the period since the last memo;
 - ◆ A list of trades made, with a brief explanation as to why each trade was made;
 - ◆ Explanation of period results, including identification of the biggest gainer and the biggest loser for the period;
 - ◆ Evaluation of last period's expectations (e.g., performance occurred as expected, or, performance deviated from expectations and why);
 - ◆ Expectations for the upcoming period, including thoughts on general economic conditions and the effect of those conditions on your investments.
- 3) Monday May 4 - make a presentation to the class explaining portfolio performance over the semester. You will sell all of your stocks and record your final portfolio value on Friday, April 25. The presentation will replicate a professional presentation (but dress casual) with team members using PowerPoint slides (transparencies preferred, of course).
- 4) Wednesday May 6 (last day of class) - (the class after the presentation), each student will submit a memo to me grading their fellow team members on a scale of 1 – 5 (5 = excellent team member, pulled their weight, pleasure to work with, had good ideas, etc.; 1 = was no help at all, difficult to work with, contributed no ideas or analysis, didn't show up to meetings or return emails or calls, etc.), with brief explanation of any score of 1 or 2. These peer-grades will be strictly confidential, so please be honest.

Total points (20) earned on the portfolio project will be assigned as follows:

- ◆ 15 points: portfolio selection memo, periodic update memos, final presentation (3 points for each deliverable)
- ◆ 5 points: average of team member grades (point 4 above)

There will be two categories for “winning” the portfolio project, with the following points:

- The team who is leading the competition for the highest number of weeks, based on the Stocktrak ranking I receive weekly (+3 pts on the final)
- The team who finishes the competition with the most money (+2 points on the final)

General and Miscellaneous Policies

- Though attendance will not be taken, you are responsible for everything covered or assigned in class. The lectures may depart from the material assigned and it is important that you review the assigned readings prior to the class session.
- Academic dishonesty will not be tolerated. Your responsibilities with regard to scholastic dishonesty are described in detail in the Policy Statement on Scholastic Dishonesty for the McCombs School of Business. In particular, it is expected that the work on your examinations will be entirely your own and that you will provide a level and quality of work on your group projects commensurate with your colleagues. Failure in these regards may result in failure on the examination, projects, or course.
- The University of Texas at Austin provides upon request appropriate academic accommodations for qualified students with disabilities. For more information, contact the Office of the Dean of Students at 471-6259.

Course Schedule and Readings

meeting	DAY	DATE	TOPIC	CHAPTER
1	Wed	Jan-21	Class introduction; Financial Instruments	1, 2
2	Mon	Jan-26	Financial Markets <u>SECURITY ANALYSIS and VALUATION</u>	3
3	Wed	Jan-28	Equity Valuation Models; - Dividend Discount Models - Valuation Multiples (P/E, EBITDA, etc.) - DCF Security Valuation	18
4	Mon	Feb-2	DCF Security Valuation Example - Coke	
5	Wed	Feb-4	DCF Security Valuation - Coke Multiples Analysis - Coke DuPont ROE Analysis - Coke <i>(Portfolio Selection Memo DUE)</i> <i>(Hand out first homework - Security Analysis and Valuation)</i>	
<u>PORTFOLIO THEORY</u>				
6	Mon	Feb-9	Mean-Variance Choice Criteria	5, 6
7	Wed	Feb-11	Simple two-asset portfolios and the Capital Market Line; Portfolio Math for dealing with N -risky assets <i>Problem Set 1 (Valuation) DUE</i>	6, 7
8	Mon	Feb-16	Optimal Risky Portfolios and the Efficient Frontier; Computing Optimal Portfolios Using the Markowitz Selection Model <i>(Hand out second homework - Portfolio Theory)</i>	7
<u>EQUILIBRIUM AND PRICING MODELS</u>				
9	Wed	Feb-18	CAPM	9
10	Mon	Feb-23	Market Efficiency and Behavioral Finance <i>Problem Set 2 (Portfolio Theory) DUE</i>	11, 12
11	Wed	Feb-25	Guest Speaker Talk 4:00-5:30 (Yigal Newman, Analytic Investors, LLC)	
12	Mon	Mar-2	Empirical Evidence on Equilibrium Pricing Models	13
13	Wed	Mar-4	Portfolio Performance Evaluation <i>(First portfolio memo due)</i>	24

GLOBAL TRIP WEEK AND SPRING BREAK

SECOND HALF

FIXED INCOME

14	Mon	Mar-23	Intro to FI – Treasuries and Discount Factors	Tuckman 1
15	Thu	Mar-26	Guest Speaker Talk 5:00-6:30 (Inmoo Lee, Dimensional Fund Advisors, LLC)	
16	Mon	Mar-30	Discount factors, Spot Rates, and Forward Rates ISOMORPHISM <i>(Second portfolio memo due)</i>	Tuckman 2 & 3
17	Wed	Apr-1	Constructing the Yield Curve to use for Pricing and Spread Analysis	Tuckman 4
18	Mon	Apr-6	FI value analysis with a constructed yield curve: A treasury pricing example and a corporate debt spread example	
19	Wed	Apr-8	Duration and Convexity <i>(Hand out Third Homework – Fixed Income Analysis)</i>	BKM 16

DERIVATIVES

20	Mon	Apr-13	Guest Speaker Talk 5:00-6:30 (Britt Harris, Teacher Retirement System of Texas)	
21	Wed	Apr-15	Option Markets, Instruments, and Payoffs	20
22	Mon	Apr-20	Option Valuation Problem Set 3 (Fixed Income) DUE	21
23	Wed	Apr-22	Futures and Forwards	22
24	Mon	Apr-27	Swaps and Hedging <i>(Third portfolio memo due)</i>	22
25	Wed	Apr-29	Hedging Equity Risk	23

WRAP-UP

26	Mon	May-4	Group Portfolio Presentations	
27	Wed	May-6	Last Day of Class - Catch-up/Review and course evaluations <i>(Portfolio Group Peer Evaluations Due)</i>	

May 13 - 19 FINAL - EVERYTHING (all of the above)