SYLLABUS FOR F303 INTERMEDIATE INVESTMENTS
Summer 2011

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Office	BU 748
Office hours	Tues: 1:50PM – 3:00 PM
Class times	Tues/Wed/Thu 11:45 AM– 1:50 PM
Course homepage	OnCourse
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TEXTBOOKS AND REQUIRED MATERIAL

Essentials of Investments, 7th Edition, by Bodie, Kane, and Marcus (henceforth "BKM")

Excel Modeling and Estimation in Investments, 3rd Edition, by C. Holden

ADDITIONAL RESOURCES

Library RESERVES: Chapters 6 and 7 of *Investments* (by Bodie, Kane, and Marcus, 7th Edition)

COURSE OVERVIEW

This course provides a rigorous treatment of the core concepts of investments for finance majors. It broadly covers financial instruments, such as equity, fixed income, and derivative securities, as well as key concepts in international finance. It makes extensive use of spreadsheet modeling to implement financial models.

These are some (not all) of the major areas we will be looking at:

- Determining the expected return and risk of assets and portfolios
- Historical risk and return performance of various asset classes
- Diversification and how it can reduce portfolio risk
- The composition of the optimal portfolio of risky assets
- Review of the major asset pricing models and their implications to investors
- Examining the performance of fund managers
- The efficiency of financial markets with the implication for fundamental and technical analysis
- The relationship between a bond's coupon rate, the required yield and price
- How to calculate the yield-to-maturity for a bond and its meaning to the investing community
- Determining the factors influencing an option's market value
- The payoffs associated with various option positions

Please note: This course serves as a foundation for all 400-level finance electives.

We have set four additional goals for each student to develop:

1. Real-time investment skills. The course includes an investment simulation group project. You will use Stock-Trak, an investment simulation broker, to manage a large portfolio.

2. Applied spreadsheet skills for financial modeling. Spreadsheets are the primary instrument used in most real world finance positions, such as financial analysts, credit analysts, security analysts, etc. The course has two spreadsheet-based individual projects and a spreadsheet-based team project.

3. Slide show presentation skills. Electronic slide show presentations are a central communication skill in business. The course contains one in-class slide show presentation.

4. Small group communication skills. Developing skill and confidence in group work is crucial. This course involves two team projects to give you additional experience with group processes.

GRADING

Projects	
1. Portfolio Optimization (Individual)	25
2. Group Project 1 (Written Part)	50
3. Group Project 1 (Presentation)	50
Exams	
Midterm Exam 1	80
Midterm Exam 2	80
Final Exam (Comprehensive, i.e. cumulative)	100
Others	
Participation	15
TOTAL	**400**

INDIVIDUAL PROJECTS (SPREADSHEET-BASED)

- **Project 1: Portfolio Optimization.** Given five years of data on U.S. industry stock indices, calculate the means, standard deviations, and correlations using the built-in spreadsheet functions. Calculate value-weights, equal-weights, and precision-weights. Enter these inputs into Excel, and interpret the results using a mean-standard deviation graph, a graph of optimal risky portfolio weights, and the weights of various portfolios.

TEAM PROJECTS: Students will be randomly divided into teams by the instructor. Each team will have 4-5 students. They will be responsible for the following:

- **Group Project 1: Creating and Analyzing a Portfolio of Equities (SPREADSHEET-BASED followed by a group presentation).** In this group project, you will choose 10 equity securities to include in a portfolio made up of a risk free asset and a risky portfolio that includes your chosen stocks. You will research the stocks, find their historical performance, calculate their correlation and covariance, calculate their Beta and Alpha, and report on what analysts are saying about the top five stocks' future prospects in your portfolio weighting. You will also track the performance of your portfolio on a daily basis for a short period of time, explaining the impact of particular events on your portfolio and individual stocks. You will also incorporate short-sales (positivity) constraints into your optimization problem and investigate the impact of the constraints on the efficient frontier.

PEER EVALUATIONS: Each student will evaluate the other group members at the end of the class. Each student's total group projects score will be adjusted to reflect these evaluations. The peer evaluation form will be posted on the course website and you will be responsible for turning it in on the date of your last group assignment. The adjustment is as follows. Your peer evaluation scores will be converted into a percentage score. To calculate your project grade, I will deflate (multiply) the score your group receives on the project by the percentage score from your peer evaluations.

PRESENTATIONS: Should be concise, motivated, easy to follow, clearly addressing the most important findings of the analysis. Most of the technicalities should be left described only in the written part of the project. Structure your presentation as if you would have to defend your project in front of your future employer.

EXAMS: You will be required to take three exams. The first two exams will be given during normal class time, and the third will be given on the final day. All of these are closed books and closed notes exams. The midterm

exams will only focus on the material covered in class since the previous exams but the final exam will be comprehensive (i.e. **cumulative**). You will be provided with a formula sheet for the exams.

GRADE POLICY: Grading is done on a relative basis (curve). Following standard finance department policy, the average GPA will fall between 2.70 and 3.00. The class curve is based on total points for the course.

CLASS COMMUNICATION: PowerPoint lectures, project descriptions, project data, class syllabus, and other printable material will be made available on Oncourse. You may find it helpful to print out class notes prior to class to aid in taking notes during lectures. No laptops are allowed. In class exercises and additional explanatory notes will not be distributed or posted. It is your responsibility to recover them from your colleagues if you miss a class.

ANNOUNCEMENTS: All announcements (especially regarding the exams) will be posted on the course webpage. It is important that you check this page regularly. It is your responsibility to keep yourself informed of important developments pertaining to the course. Please also enter your photo, email address and any other required information to this web page.

POLICIES:

1. Class attendance is strongly encouraged and it is required during ALL group presentations. You should attend the class *at the scheduled time*. Late arrivals or early departures are discouraged and they could be reflected in your class grade. This policy avoids the problem of having people wander in and out in the middle of the class and disturb the lecture.
2. We fully appreciate that job interviews will occasionally conflict with class periods, but your efforts to minimize this conflict are greatly appreciated.
3. Projects are to be handed in at the ***beginning*** of class on their due dates. **No credit will be given for late projects**.
4. **I will not check your spreadsheet before you turn in a project**. Correcting your mistakes is pre-grading and is not fair to the rest of the class.
5. Laptops are not allowed. Lecture notes will be available online several days before the class to give you enough time to print a copy.
6. I do not schedule make-up exams except for the final exam. If you miss a mid-term exam, the grade portion of that exam will be cumulated to the grade portion of your final exam (for example, if you miss one mid-term exam, your final exam will be worth 45% of your grade instead of 25%). Make-up final exams will be given only for family or medical emergencies. Prior notice and hard evidence is required.

There is no guarantee that the make-up final will have the same level of difficulty and the same type of questions as the common exam.

7. We will try to stick to the course outline schedule; however, it may be necessary sometimes to make adjustments.

ACADEMIC HONESTY AND DISCIPLINE: Students are expected to adhere to the Student Honor Code. This class has zero tolerance for academic misconduct. The attempt of any student to present the work of another as his or her own, or to present any work not honestly performed, or to pass any examination by improper means is a most serious offense and will be treated with extreme prejudice. The aiding and abetting of a student in any dishonesty is likewise held to be a great breach of discipline. In addition, activities not related to the class, such as cell phone conversations, chatting and internet-surfing, are strictly prohibited.

OTHER RESOURCES

You may want to use other resources to give you additional insights in the subjects and issues we cover.

The Economist, is one excellent source of news and economic and financial topics with a strong international focus.

There are also some very good web sites covering finance, investments and financial markets. Here are some of the best:

http://finance.yahoo.com Good source for historical financial data.

http://www.ft.com Site of the Financial Times. Good for news and weekly surveys on investments, banking, finance, etc.

http://www.ftmarketwatch.com Web site from the Financial Times; more focused on finance and investments.

http://www.wsj.com The Wall Street Journal Site.

http://www.afajof.org Journal of Finance home page.

http://www.nber.org National Bureau of Economic Research. Links to many useful economics web sites along with useful historical statistics.

http://www.finweb.com This site has a comprehensive set of links to many useful sites in finance

http://www.mscibarra.com This web site contains historical monthly equity returns for a number of market indices

http://www.ibbotson.com The Ibbotson web page contains interesting research and excellent links to financial data

http://www.nyse.com Web site of the NYSE Euronext

http://www.cmegroup.com Web site of the Chicago Board of Trade/Chicago Mercantile Exchange/NYMEX Company

http://www.londonstockexchange.com Site of the London Stock Exchange, one of the leading international markets

COURSE OUTLINE (This is a tentative schedule)

Date		Topics	Reading	Suggested Problems
Equity Securities				
Tue	5/10	• Syllabus and Introduction • Elements of investment • Market overview	BKM Chapter 1-4 Indices: 2.4 Derivatives: 2.5 Margin Buys: 3.6 Short Sales: 3.7	Ch 3: 3, 7a, 10a, 18
Wed	5/11	• Risk and return • Statistical Review • Basic portfolio theory	BKM Chapter 5, 6	Ch 5: 2, 4, 5-13, 15, 18-26 Ch 6: 1, 2, 3, 4, 5
Thu	5/12	• Asset Allocation • Efficient Diversification • Optimal CAL and Efficient Frontier *Individual Project 1 given and explained*	BKM Chapter 6	11,12, 14-17
Tue	5/17	• Systematic vs. Idiosyncratic Risk • Introducing the CAPM • Using CAPM	BKM Chapter 6, 7	1-4, 6-14, 16, 18
Wed	5/18	• Security Alphas • CAPM Empirical Evidence • Measures of Portfolio Performance	BKM Chapter 7, 18	Ch 7: 19-22, 32-38 Ch 18: 6a, 9, 10,
Thu	5/19	• Efficient Markets • International Diversification • Review *Individual Project 1 due* *Group Project 1 given and explained*	BKM Chapter 18, 8	Ch 8: 1-9, 14-20, 22-24, 26
Tue	5/24	**Midterm Exam 1**		
Fixed Income Securities				
Wed	5/25	• Bond pricing, bond features • Yield to Maturity • Corporate Bond Yields and Ratings	BKM Chapter 10	2-4, 9, 13, 14, 23a, 24, 29, 39a,c
Thu	5/26	• Yield Curve • Interest Rate Risk by Coupon Rate & Maturity • Duration and Interest Rate Risk • Immunization	BKM Chapter 11	1-9, 11, 14a, 15, 24
Tue	5/31	• Bond funds		

		• Review • Practice problems		
Wed	6/1	*Group Project 1 : written part due (all groups)* *Group Project 1 : class presentations*	Class attendance is mandatory!	
Thu	6/2	**Midterm Exam 2**		
Derivative Securities				
Tue	6/7	• Introduction to Derivatives • Payoff and Profit Diagrams • Payoff and Profit Diagrams – extensions • No Arbitrage Framework		
Wed	6/8	• Binomial Option Pricing Model • Put-Call Parity • Cumulative Normal • Black-Scholes Pricing • Computer demo: Black-Scholes Sensitivities	BKM Chapter 15, 16	Ch 15: 1-7,9,10,14-17, 19-21, 25, 26 Ch 16: 1-3, 5, 6, 20, 23, 29-33
Thu	6/9	• Futures Basics • Futures vs. Forwards • Spot-Futures Parity • Hedging and Speculating with Futures • Interest Rate Swaps • Foreign Exchange Swaps	BKM Chapter 16	4, 7, 8, 11-19, 22-24
Tue	6/14	• Review		
Wed	6/15	**Final Exam**		

IMPORTANT DATES: Please note the following schedule of assignments and exams and avoid any conflict with your personal schedules (interviews, trips, etc.).

Date Activity

5/19 Individual Project 1 is due
5/24 Midterm exam 1 in class
6/1 Group Project 1 written report due, Group Project 1 presentations
6/2 Midterm exam 2 in class
6/15 Final exam