

**Booth School of Business
University of Chicago**

**BUSX 35800
Investments and Financial Instruments
Winter 2010**

Professor Ioanid Rosu

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Lectures	Fri 1:30–4:30pm, GC 200 Sat 1:30–4:30pm, GC 200
Office Hours	Wed 4:00-5:00pm, or by appointment
Review Sessions	Fri 4:45-6:15pm, GC 200
TA	Dominic Persechini, dpersechini@ChicagoBooth.edu

Course Description

This course offers the financial theory and quantitative tools necessary for understanding how stock, bond, and option prices are determined, and how financial assets are used for investment decisions. Topics covered include modeling the relation between risk and return, optimal portfolio selection based on mean–variance analysis, asset pricing models, market efficiency and behavioral finance, money management, practical asset allocation, and more. The focus is usually on common stocks, but fixed income securities (bonds) and derivative securities (options, futures, swaps) are also analyzed.

The course is quantitative and challenging. Rather than delving into the details of current practice, it takes a rigorous and critical view to the process of investing. The aim is to provide the students with a lasting conceptual framework in which to view and analyze investment decisions. At the same time, the course will discuss alternative philosophies of investing, and relate the material to current financial news and to problems relevant to the practitioner.

Office Hours, Review Sessions

My office hours are every Wednesday, 4:00-5:00pm. If you cannot come to my office, you are welcome to call me (773-834-1826). If this is not convenient for you, feel free to email or call me to set up an appointment. I also encourage you to share with me any comments you might have on the course.

The teaching assistant for this course is Dominic Persechini, a second-year MBA student. His office hours are, by appointment, on each Thursday evening during a lecture week. Also, feel free to contact Dominic at any other time with questions regarding the course material, especially those related to the projects and homework assignments. The best way to reach him is by e-mail at

dpersechini@ChicagoBooth.edu.

Dominic will hold review sessions after lecture on Friday, 4:45-6:15pm, at the Gleacher Center 200, starting on the **first** week of classes. In those sessions, besides answering any questions you might have, he will first discuss the problem set that was due that week, and then go over some relevant problems (selected by me) for the next problem set or exam. The review sessions are optional, but strongly recommended for those with questions about the course material, assignments, and exams.

Course Web Page

I have set up the course Web page on the University's Chalk system

<http://chalk.uchicago.edu>

To access the web page, you need the University's CNetID and password. In case you don't have these yet, you can claim them at <http://cnet.uchicago.edu>.

Grading

The course requirements are a Midterm exam, a Final exam, five graded Homework assignments, and a Stock Tracking and Investment project. The midterm exam is optional, in that it is only added to the total score if it increases the average. This places the added weight on the final. This will be done automatically by the computer, so there is no need to contact me about it.

Weightings on the various components of the final grade are as follows:

Homework Assignments	15%		
Stock Tracking Project	10%		
Midterm	25%	or	0%
Final	50%	or	75%

Class participation is very important. Many of you have professional experience that can benefit our class discussions. Do not hesitate to share your experience with the rest of the class!

Exams

The Midterm exam will be held during the first half of the class on Saturday, January 30th, 1:30–2:50pm. The Final exam will be held on Saturday, March 13th, 11:00–2:00pm. Exams are *closed-notes* but you can bring with you a “cheat sheet” (created by me) and at most two additional sheets of paper with your own formulas and notes. Laptops and cell phones are not allowed.

You may request a re-grade on any exam or assignment. Each re-grade request must be accompanied by a concise written explanation of the request and submitted to me within one week after I distribute graded exams or assignments. The whole exam will be re-graded, so your score can either increase or decrease as a result. Exam rescheduling requests will not be granted except in extraordinary circumstances.

Homework Assignments

Five homework assignments will be given, which consist of problems and several applications to real data. The latter are designed to apply techniques learned in the course to real data in a manner similar to what might be applied in practice. Keep in mind that exam questions will be similar to the assigned homework problems. In determining your total grade for the homework, I will only count **your best three problem sets out of the first four**. The fifth problem set is not due, but is there to help you with preparing for the final exam.

Stock Tracking and Investment Project

The purpose of this project is to enhance your understanding of what makes stock prices move and to improve your ability to follow and digest financial news. Moreover, you will manage a portfolio formed with various financial assets, including the stock of a company of your choice.

At the beginning of the quarter, you will choose one company whose stock you will follow throughout the quarter. At the end of the quarter, you will turn in a brief report on how the company has done and why. At the same time, you will manage a portfolio formed with any financial assets you want, including futures, mutual funds, international assets, and options. You will then trade in these assets, and write a report on how your portfolio performed. The portfolio will be managed using Stock-Trak (<http://www.stocktrak.com>). Each student registered in the course will automatically be given a free account on the Stock-Trak webpage.

The work on these reports is to be submitted **individually**. The reports will be graded. In addition, your portfolios will be ordered according to their realized returns during the quarter, and the best portfolio managers will be announced in the last class session. Don't worry, the performance of your portfolio will not affect your grade.

Honor Code

Students in this course are required to adhere to the standards of conduct in the Honor Code and Standards of Scholarship. Each student shall sign the following pledge on each exam: “I pledge my honor that I have not violated the Honor Code during this examination.” Except for members of your study group, you should not discuss the problems, cases, or exams with other members of this or any other class, or with former BUS 35800 students. In the future, you should not discuss the problems and cases with students then taking BUS 35800. If you are in doubt about whether something is acceptable under the honor code, you should not hesitate to ask me.

Course Materials

- **Required Texts**

1. Bodie, Zvi, Alex Kane, and Alan Marcus, *Investments*, McGraw-Hill, 8th Edition, 2009 (**BKM**).
2. Malkiel, Burton, *A Random Walk Down Wall Street*, Norton, 9th Edition, 2007 (**RWDWS**);

- **Course Packet**

The packet contains the syllabus and some relevant articles from practitioner as well as academic journals. Some of the articles are required and some are optional, as detailed later in the syllabus. I will require you to read only the relevant material that is within your reach. You do not have to read the articles in great detail, but you have to make sure you understood the general idea.

- **Lecture Slides and Handouts**

When presenting the class material, I tend to follow my lecture notes. These notes are not included in the packet, because I often update them with new information shortly before class. I will make these notes available to you before each class.

Practice exams will also be posted on the class web page prior to the exams. I may also periodically hand out current newspaper and magazines articles relevant to the course topic.

Course Outline and Readings

This an *approximate* schedule of topics that will be covered. You should read the corresponding material in the text prior to the lecture. “BKM” refers to the book by Bodie, Kane and Marcus; and “RWDWS” refers to the book by Malkiel (“A Random Walk Down Walk Street”). Unless otherwise stated, the listed articles are included in the course packet. Required readings are denoted by **R**, and optional readings are denoted by **O**.

Course Outline and Readings

(Required readings are denoted by “**R**”, optional readings by “**O**”).

Lecture 1 – *Risk and Return; Asset Pricing and Present Value* (January 8)

- Course Outline and Introduction
- Overview of Financial Markets
- Risk and Return
- Asset Pricing and the Present Value Formula
 - BKM, chapters 1, 2, 3, 5 (**R**: all), chapter 18 (**O**)
 - RWDWS, chapters 3, 13 (**O**)
 - Greenleaf, Foster, and Prinsky, *Understanding the Financial Data in the Wall Street Journal*, Dow Jones, 1989 (updated 2004) (**O**)
 - Dimson, Marsh, and Staunton, *Risk and Return in the 20th and 21st Centuries*, Business Strategy Review, 2000 (**R**)

Lecture 2 – *Asset Allocation; Mean–Variance Analysis* (January 9)

- Risk and Risk Aversion
- Asset Allocation
- Portfolio Theory and Mean-Variance Analysis
- Diversification
 - BKM, chapters 6, 7 (**R**: all)
 - RWDWS, chapter 8 (**O**)

Lecture 3 – *The Capital Asset Pricing Model; Arbitrage Pricing Theory* (January 15)

- The Capital Asset Pricing Model (CAPM)
- Applications of CAPM
 - BKM, chapter 9, section 13.1 (**R**: all)
 - RWDWS, chapter 9 (**O**)
- Multifactor Models and Arbitrage Pricing Theory
- The Fama & French 3-Factor Model
 - BKM, chapters 8, 10, sections 13.4–13.6 (**O**: all)
 - Bower, Bower, and Logue, *A Primer on Arbitrage Pricing Theory*, Midland Corporate Finance Journal, 1986 (**O**)
 - Fama and French, *The Cross-Section of Expected Stock Returns*, Journal of Finance, Jun. 1992 (**O**)

Lecture 4 – *Practical Asset Allocation* (January 16)

Problem Set #1 Due (beginning of class)

- Harvard Management Company
- International Investments, Life-Cycle Investing
- The Black and Litterman Model
 - BKM, chapters 24, 25, section 27.3; chapters 8, 10, sections 13.4–13.6 (**O**: all)
 - BKM, sections 13.2, 13.3 (**R**: all)
 - RWDWS, chapters 12, 14 (**O**)
 - Economist Staff, *In Praise of Common Sense*, Economist, Jun.22, 2002 (**R**)
 - Light, *Harvard Management Company*, Harvard Business School Case, 2001 (**R**)
 - Jorion, *Asset Allocation with Hedged and Unhedged Foreign Stocks and Bonds*, Journal of Portfolio Management, Jul. 1989 (**O**)

Lecture 5 – *Market Efficiency and Anomalies* (January 29)

- The Efficient Market Hypothesis
- Market Predictability and Random Walks
- Event Studies
- Market Anomalies; momentum, Reversals and Other Price Patterns
- The Rational vs. Behavioral Debate
- Efficiency and Arbitrage
 - BKM, chapters 11, 12 (**R**: all)
 - BKM, sections 17, 18, 19 (**O**)
 - RWDWS, chapters 2, 4, 5, 6, 7, 10, 11 (**O**)
 - Schwert, *Anomalies and Market Efficiency*, ch.15 in Constantinides et al, *Handbook of the Economics of Finance*, 2003 (**O**)

Lecture 6 – *Midterm; Market Efficiency and Anomalies* (January 30)

Problem Set #2 Due (beginning of class)

- **MIDTERM EXAM:** 1:30–2:50pm
- Lecture on Market Efficiency (continued from the day before): 3:05–4:30pm

Lecture 7 – *Fixed Income* (February 12)

- Bond Prices and Yields
- The Term Structure of Interest Rates
- Duration Matching and Immunization. Convexity
 - BKM, chapters 14, 15 (**R**: all), 16 (**R**: sections 1, 2)

Lecture 8 – *Derivatives: Forwards, Futures, Swaps, Options* (February 13)

Problem Set #3 Due (beginning of class)

- Forwards, Futures, Swaps
- Options
 - BKM, chapters 22 (**R**), 23 (**O**), 20 (**R**)

Lecture 9 – *Derivatives: Option Valuation* (February 26)

- Option Valuation: The Binomial Method and the Risk-Neutral Method
- The Black–Scholes Formula
 - BKM, chapters 20, 21 (**R**: all)
 - Black, *How We Came Up with the Option Formula*, Journal of Portfolio Management, 1989 (**O**)

Lecture 10 – *The Money Management Industry; Hedge Funds* (February 27)

Problem Set #4 Due (beginning of class)

Stock Tracking and Investment Report Due (beginning of class)

- The Money Management Industry
- Hedge Funds; Long-Term Capital Management
 - BKM, chapters 4 (**R**), 24 (**O**), 26 (**R**)
 - RWDWS, chapter 15 (**O**)
 - Cohen, *Dimensional Fund Advisors*, Harvard Business School Case, 2002 (**R**)
 - Lappen, *Ivory-tower Investing*, Institutional Investor, 1998 (**O**)
 - Gladwell, *Blowing Up: How Nassim Taleb Turned the Inevitability of Disaster into an Investment Strategy*, New Yorker, Apr.22, 2002 (**O**)
 - Peltz, *From Harvard to Hedge Funds*, Bloomberg Markets, Apr. 2004 (**O**)
 - Lewis, *How the Eggheads Cracked*, New York Times Magazine, Jan.24, 1999 (**O**)
 - Cochrane, *New Facts in Finance*, Economic Perspectives, 1999 (**O**)

Final Week – *Investments Review and Final Exam* (March 13)

- **FINAL EXAM:** 11:00–2:00pm