

## **FE445 Investment Analysis and Portfolio Management**

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**Class Times:** See schedule below  
**Venues:** See calendar.

### **Course Overview**

This course is designed to provide an introduction to the following:

- the investment environment;
- concepts related to investment decision making;
- securities trading;
- portfolio theory: the science and art of combining assets into portfolios with desired risk/return characteristics;
- bond pricing and managing fixed income investment;
- equity valuation;
- performance evaluation;
- forward and futures markets;
- options markets;
- International investing.

The overall objective is to provide an introduction to the framework of modern portfolio theory and investment analysis with which one can critically evaluate alternatives relating to investments in financial securities and to the construction of portfolios with desired risk/return characteristics.

## Learning Outcomes

By the end of the course students should:

- Be familiar with the major financial markets and instruments, mutual funds, and the role of the investment manager.
- Know the elements of a complete investment policy statement
- Be able to outline a client's investment objectives and constraints, and be able to relate these to the "life-cycle" approach to financial planning.
- Be able to understand and calculate the effect of diversification and changing asset allocation on expected returns and the risk of portfolios.
- Be able to identify the optimal risky portfolio, the minimum variance portfolio, and be able to recommend which portfolio on a capital allocation line is suitable for a client with a known level of risk tolerance.
- Understand the implications and the limitations of famous equilibrium models of the relation between systematic risk and expected returns.
- Understand the role of information and how it is used to value stocks.
- Understand trading concepts such as market, stop-loss and limit orders, as well as buying on margin and short-selling.
- Understand the various factors that affect corporate bond prices, along with appropriate interest-rate risk measurement and immunization strategies.
- Understand the use of derivative instruments in risk management.

## Assignments and Grading

### ***Attendance***

Regular attendance is expected. Notify me by email if you cannot attend. Arrange for a classmate to collect handouts and to share lecture notes with you. More than 2 unexcused absences could affect your participation grade.

### ***Problem Sets***

After each major topic has been covered, solve the assigned problems from the text or handout problem sets. Study groups are very helpful.

### ***Grading***

Final Exam	50%
Assignment	40%
Preparation and Participation	10%

Quizzes and attendance and asking good questions will count for most of the "Preparation and Participation 10%"

## **Text and Readings**

### ***Required***

1. Essentials of Investments, Bodie, Kane, Marcus (BKM), 9th edition, Irwin 2013
2. Financial Calculator, preferably HP 10B II or TI BA II plus

### ***Recommended***

1. Irrational Exuberance, Robert Shiller, Broadway Books 2000
2. Capital Ideas, Peter Bernstein 1st edition, Free Press 1993
3. Beating the Street, Peter Lynch, Simon and Schuster, 1991
4. Bull's Eye Investing, John Mauldin, Wiley 2004
5. Against the Gods, Peter Bernstein, John Wiley and Sons, 1996
6. The Big Short, Michael Lewis, Norton 2010
7. A Random Walk Down Wall Street, Burton Malkiel, 10th edition, Norton 2011
8. subscribe to the "investorsinsight.com" newsletter (free). John Mauldin's column is recommended

## **Plagiarism**

It is every student's responsibility to read the Boston University statement on plagiarism, which is available in the Academic Conduct Code. Students are advised that the penalty against students on a Boston University program for cheating on examinations or for plagiarism may be "...expulsion from the program or the University or such other penalty as may be recommended by the Committee on Student Academic Conduct, subject to approval by the Dean."

**Note:** Students must retain an electronic copy of all work submitted for assessment.

### Lecture Schedule

<b>Topic</b>	<b>Lecture Title / Reading / Activity</b> <i>BKM = Bodie, Kane, Marcus</i> <i>Each "topic" will require approximately three class hours to cover</i>
1	<b>Introduction</b> <span style="float: right;">BKM 1,2,4</span>
2	<b>The Investment Management Process</b> <span style="float: right;">BKM 22</span> Problems 1-6  <p style="text-align: center;"><b>Learning Objective:</b> The first section of the course requires the student to gain familiarity with the major financial markets and instruments, mutual funds, and the role of the investment manager. In BKM 22, students learn the elements of a complete investment policy statement; they should be able to outline a client's investment objectives and constraints, and be able to relate these to the "life-cycle" approach to financial planning.</p>
3	<b>Asset Allocation</b> <span style="float: right;">BKM 5</span>  Problems 1-19 CFA #1-11  <p style="text-align: center;">Also: always attempt the in-chapter "concept check" questions...answers are at the end of each chapter.</p>
4	<b>Efficient Diversification</b> <span style="float: right;">BKM 6</span> Problems 1-12, 16,18,19,20 (include the appendix on "time diversification") CFA #1 and #2  <p style="text-align: center;"><b>Learning Objective:</b> This material introduces Modern Portfolio Theory and the work of Harry Markowitz on optimal diversification strategies. Students must be able to understand and calculate the effect of diversification and changing asset allocation on expected returns and the risk of portfolios. They should be able to identify the optimal risky portfolio, the minimum variance portfolio, and be able to recommend which portfolio on a capital allocation line is suitable for a client with a known level of risk tolerance.</p>

5	<p><b>Equilibrium Models (CAPM and APT)</b> BKM 7 Problems 1-19,21-23 CFA 1-14</p> <p><b>Learning Objective:</b> Students need to understand the implications and the limitations of these famous equilibrium models of the relation between systematic risk and expected returns.</p>
6	<p><b>Efficient Markets</b> BKM 8 Problems 1-23 CFA 1-6</p> <p><b>Behavioural Finance</b> BKM 9 Problems 1-3,6-9,10,21 CFA 1</p>
7	<p><b>Equity Valuation</b> BKM 12,13,14 Suggested: Malkiel chap 1-7,</p> <p><b>Learning Objective:</b> This section of the course addresses the role of information and how it is used to value stocks, and to try to "beat the market". That covers a lot of ground. The key concepts on which we spend the most time are market efficiency and intrinsic value. However, students should familiarize themselves with the basics of fundamental and technical analysis. That will help them write their mini-project on explaining the price behaviour of a stock (more detail on this later). The rest of the course consists of modules on various topics that are important to professional portfolio management. Some of these topics are covered in greater depth in other electives, such as "Futures and Options", and "Money and Capital Markets"</p>
8	<p><b>Securities Trading</b> BKM 3</p> <p><b>Learning Objective:</b> Market orders are not always the best way to trade stocks. Students must be familiar with stop-loss and limit orders, buying on margin and short-selling</p>
9	<p><b>Fixed income portfolio management</b> BKM 10, 11</p> <p><b>Learning Objective:</b> This module looks at how the market prices T-Bonds and the various factors that affect corporate bond prices, such as credit ratings, callability, convertibility, and covenants. We continue with interest-rate risk measurement and immunization strategies.</p>

10	<p><b>Forward and Futures contracts</b> <span style="float: right;">BKM 17</span></p> <p><b>Learning Objective:</b> How to hedge price risk. No-arbitrage pricing of futures contracts. Spot-futures parity</p>
12	<p><b>Options contracts</b> <span style="float: right;">BKM 15</span></p> <p style="text-align: right;">Skim BKM 16</p> <p><b>Learning Objective:</b> Options' role in insurance and speculative strategies. Put-call parity. Arbitrage using synthetic securities.</p>
13	<p><b>Overview of the Irish Credit Crisis</b> <b>TIGERS AND PIIGS</b></p>
<u>14</u>	<p><b>New Financial Products and the Potential Role of Cryptocurrencies</b></p>
<p><u>Friday 28<sup>th</sup> July</u> 11am-1pm</p>	<p><b><u>Final Examination</u></b></p>