Course Objective

The objective of this course is to undertake a rigorous study of theory and empirical evidence relevant to investment management. The bulk of the course concerns stock markets, since there are separate courses covering fixed income and options markets. Nevertheless, we will cover options pricing briefly, focusing on how they may be used to satisfy investment objectives that are difficult to achieve with equities alone. The course does not cover individual security selection and valuation, i.e., this is not a course on stock picking.

The course is heavily applied in the sense that various concepts and approaches are subjected to real-world data. In contrast, the course devotes less time to the institutional aspects of investment management and is quantitative. Rather than describe the operational details of current practice, the course aims at providing a lasting conceptual framework for viewing the investment process and analyzing future ideas and changes in the investment environment.

Prerequisites

Students are required to have completed Capital Budgeting and Corporate Objectives (FIN 402) as well as basic probability and statistics. The field of investments is inherently quantitative. Some familiarity with matrix algebra will be useful but is not assumed. Knowledge of basic statistics is much more important, since these tools will be used in every lecture throughout the quarter. Familiarity with statistics should extend through multiple regression, covariance, and correlation. In addition, problem sets may be spreadsheet-based, so familiarity with Excel will be helpful.

Readings

The readings are designed to encourage questions and discussions about the points in class, but more importantly, to facilitate understanding of the course material, which may otherwise be very
difficult. It is imperative to do the required reading before the lectures. Required readings are generally from the textbook, with a few exceptions from important practitioner-oriented journal articles. Optional readings will generally come from practitioner-oriented journals such as the Financial Analyst Journal or the Journal of Portfolio Management. Occasionally, readings will also come from academic research journals such as Journal of Finance, Journal of Financial Economics, and Review of Financial Studies.

Expectations of Student Performance

This is a difficult course. The average student can expect to spend around 8–10 hours per week outside of class with assigned readings, reviewing lectures, and working on the heavy-duty assignments. My expectations are that students will come to class prepared by having read the relevant sections in the textbook and assigned articles. It is imperative that you come to class prepared, or you may get lost in the class quickly and waste your time at the end. In case you fall behind the rest of the class, it is entirely your responsibility to work your way up, including taking advantage of my and the TA’s office hours. However, in the office hours please do not ask me or the TAs how to solve the problems assigned in the projects before their due dates.

Teaching Assistant

To Be Determined

Lab Sessions

There will be no regular lab sessions, although I usually hold review sessions about one week before the midterm and the final.

Course Materials

Required readings are assigned out of Bodie, Kane, and Marcus (BKM), Investments, sixth edition, McGraw-Hill (See TENTATIVE COURSE OUTLINE below), and course lecture notes.

The course website will contain: (i) course announcements; (ii) lecture notes; (iii) Excel spreadsheets, problem sets, and solutions; and (iv) some required and all optional readings (journal articles) in PDF format. Lecture notes and other handouts will be distributed during most class meetings. Students who miss class are responsible for obtaining copies of material distributed in class, including project assignments. In general, lecture notes will be available for download several days before each class from the course website. However, assigned readings, apart from those from BKM, will be available for download at least one week before the class meeting from the course website. Completing the required reading before each lecture is strongly recommended. You are also encouraged to complete as much optional reading as possible.
Course Requirements and Grading

The course grade will be based on a midterm exam, a final exam, and a number of assignments. Your course grade will be determined using the following weights:

<table>
<thead>
<tr>
<th>Assignments</th>
<th>30%</th>
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<tr>
<td>Midterm</td>
<td>30%</td>
</tr>
<tr>
<td>Final</td>
<td>40%</td>
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No letter grades will be assigned to exams or problem sets, but I will report the distribution of exam scores for the final and the midterm. Class participation helps decide grades at the margin.

Exams

Both midterm and final exams are closed book, but you will be allowed to bring one crib sheet (front and back, 8.5 by 11 inches) to the midterm and two to the final. You can use a calculator that can compute logs and raise numbers to arbitrary powers. However, laptop computers and calculators with word-processing features are not allowed to use in exams.

The midterm is scheduled from 5:30 to 7:00pm on Wednesday, April 26. This is a regular class time. Therefore, only under extreme circumstances such as medical or family emergencies, will I waive your midterm requirement so that the final will account for 70% of your grade.

The final exam is a comprehensive exam covering all the material in the course with a focus on the second half of the quarter. The date of the final will be determined by the school. And I have no control over its schedule.

Group Assignments

The assignments are intended to give some hands-on experience with investment data and to provide some insights into applying quantitative techniques useful in investment analysis. The assignments will require computations that can be performed on a computer using Excel or other statistical programs. Students are required to do the assignments in groups up to four members. Assignments must be submitted to me at the beginning of the class on the due date. Each group should submit a single copy of their work, clearly specifying the names of all contributing members. All team members will receive the same project grade. The assignment report should be a self-contained write-up of the results and conclusions. Additional tables or figures may be included. The assignment will be distributed in class at least one week before each due date. Solution keys will be available on the course website and in class. Under absolutely no circumstances, will I accept late assignments.

Regrading Policy

Requests for a regrade of either an exam or an assignment must be submitted in writing no later than one week following the day the item was returned. For the regrade request, please give your names and section along with a brief summary of why you think the grading was in error. Note that the entire exam or assignment will be regraded and that any regrade request may result in a lower grade.
Academic Integrity

Students are expected to follow the rules of academic honesty in this course. This means that exams are to be the work of the individual using only the material permitted during the exam time. Concerning all other aspects of the course, including the assignments, I encourage you to speak freely with your classmates, but the work you ultimately turn in for your assignments must be that of your own group.

Tentative Course Outline

The following is a tentative list of the topics that will be covered in the course. Some of the required readings are listed under each topic. More required readings may be added later on the course website as the course unfolds.

Week 1 (March 27 [half class] and March 29)

Introduction, statistical properties of returns, options: basic concepts
BKM Appendix A; BKM Chapter 20

Week 2 (April 5)

Options: Valuation and applications
BKM Chapter 21; Whaley (2000)

Week 3 (April 12)

Asset allocation, modern portfolio theory
BKM Chapters 6, 7, and 8

Week 4 (April 19)

The CAPM and the single-index model
BKM Chapters 9 and 10; Section 13.1.

Week 5 (April 26)

The Multi-factor Asset Pricing Model

Week 6 (May 3)

The arbitrage pricing theory
Week 7 (May 10)

Mutual fund performance evaluation, portfolio management
BKM Sections 24.1–24.4; Section 24.7–24.8; Chapter 27.

Week 8 (May 17)

Market efficiency, event studies
BKM Sections 12.1–12.4

Week 9 (May 24 [half class])

Evidence on aggregate stock market behavior
BKM Section 13.4, 13.5, and 13.6; BKM 12.4, 13.2, and 13.3.

Week 10 (May 31 [half class])

Anomalies: value investing, momentum profits, and behavioral finance
BKM Section 12.5; Jegadeesh and Titman (1993); Chan, Jegadeesh, and Lakonishok (1999); Daniel and Titman (1999); And Introductions only: Daniel, Hirshleifer, and Subrahmanyam (1998); Barberis, Shleifer, and Vishny (1998)