Financial Markets and Investments

Course Objectives and Outline

This course is concerned with the choice and evaluation of investment strategies and portfolio management. The goal of the course is to provide you with a deeper understanding and appreciation of the complex questions and tradeoffs facing any investor, along with the necessary theoretical background for critically evaluating investments and understanding the modern literature on investments. That is, the course is designed to provide you with a conceptual framework for analyzing investment decisions; not a recipe for how to make a quick buck on Wall Street.

The topics that we are going to cover include:

1. Portfolio Theory and Asset Allocation
2. Portfolio Theory and Asset Allocation: Some Practical Considerations
3. Risk and Return in Equilibrium: The Capital Asset Pricing Model (CAPM)
4. The CAPM: Empirical Evidence
5. Multi-Factor Models and the Arbitrage Pricing Theory (APT)
6. Performance Evaluation
7. Market Efficiency and Return Predictability
8. Options

Course Requirements

Uncertainty is essential to investment theory and practical investment and portfolio management. As such, the course will entail the use of a number of statistical tools, ranging from the notion of probability distributions through linear regression analysis. The prerequisites for the course are Economics 205D (105D) or Economics 372 (172), and a statistics course, such as Statistics 103, 104, 113 or 114.

Course Schedule and Organization

We will have live Zoom class meetings starting at the officially scheduled class time 3:30pm EST on Mondays and Wednesdays. In addition, to accommodate students in other time zones, I will also hold Zoom class meetings on Thursdays starting at 10:00am EST. I plan to use the class meetings to answer any questions about the online lectures as well as more general discussion. I might also briefly talk about news articles that relate to the class material. I strongly encourage you to actively participate in the class meetings. All of the class meetings will be recorded and available through the Sakai class site.
I will prerecord all of the class lectures and post the recordings on Sakai. I plan to post new lectures twice a week, shortly after our Monday and Wednesday class meetings. In addition to the recordings with my voice over, I will also post the pdf files with the slides.

I will post weekly quizzes on Sakai every Tuesday. You can take the quiz anytime during that day. Once you start a quiz, you will have an hour to complete it. The Tuesday quiz in week T will pertain to the lectures and material covered in the previous week T-1. I plan to briefly go over the solutions to the weekly Tuesday quiz at the start of the Wednesday class meeting.

I will post a weekly logfile every Wednesday summarizing what we have covered in the lectures and what you need to study for that week.

Course Evaluation

Your course grade will be based on an equal weighting of the weekly quizzes, two homework, and a final exam. You must take the weekly Tuesday quizzes any hour during the day. The first homework will be due on Friday, October 2. The second homework will be due on Friday, November 20. Late homework will not be accepted. The final exam will be comprehensive. It will be held online at the officially scheduled time, Saturday, November 21, 9am - Noon. You must take the exam at that time. In addition to the quizzes, homework and final, I may also add a few bonus points to your total score based on your participation in the Zoom class discussions and contribution to the classroom atmosphere.

Contact Info

My email is: boller@duke.edu. I will generally not answer emails after 5pm, nor during the weekend. Instead of emailing me individually with questions about the material covered in the lectures, I would prefer for you to ask your questions during our Zoom class meetings, so that everyone can benefit from the discussion. Correspondingly, I might defer answering some email questions to one of our zoom class meetings.

Saketh Aleti is the Teaching Assistant (TA) for the class. His email is: saketh.aleti@duke.edu. Saketh will be holding weekly Zoom office hours on Thursdays, 8:00-9:00pm EST. Saketh should be your first point of contact for questions about the homework and problems.

Texts and Readings

The required text for the course is:


The Bodie, Kane and Marcus (BKM) book provides a very comprehensive treatment of modern investment theory. We will not be able to cover the entire book in a single semester course. There are a number of different purchase options: hard copy (very expensive), eVersion, rent for a limited time, rent only part of the book. The 10th and 11th editions published in 2014 and 2018, respectively, are both fairly similar to the new 12th edition, and could save you some $s.
The Bodie, Kane and Marcus textbook has a number of concept checks throughout, with solutions at the end of each chapter. The book also has some problems at the end of each chapter. I will post suggestive solutions to these on the Sakai class website (I only have the solutions for the 11th edition, but almost all of the problems are the same as the ones in the new 12th edition). I will also post some additional problems and solutions of my own for you to look at. Even though all of these problems are entirely optional, from past experience, there is usually a strong correlation between the time and effort spent on solving these problems and the final exam performance.

I will also be posting a few additional academic readings. Some of these readings are fairly technical, and only meant for those of you who want to dig a bit deeper. You will not be explicitly tested in any of these readings. The recent book:


also provides an excellent practically oriented discussion of many of the concepts that we are going to cover in the class, and how these ideas form the basis for the strategies employed by some of the most successful hedge funds. Again, you will not be explicitly tested on any of this.

Lastly, if you have the time and interest, I would encourage you to keep abreast of daily events in financial markets by looking at the *Wall Street Journal*, the *Financial Times*, the *Economist* or other financial news sources. If you come across something that seems relevant for what we have covered in the lectures, please let me know by email, or bring it up during our zoom class meetings. I will try do the same.

**Class Outline and Readings**

Some of my lectures will follow the BKM book fairly closely. For some of the topics, however, I will provide a much more in-depth and detailed discussion. If you follow my lectures, you will be in good shape for the quizzes, homework and final exam.

**Week 1**

**Review Material (on your own)**

A) Asset Classes and Different Investments

Different asset classes and financial instruments; how securities are traded; mutual funds, ETFs and other investment companies.

BKM, Chapters 1-4.

YouTube and other online tutorials.

B) Basic Statistics

Probability, uncertainty and linear regression.

[3]
BKM, "Quantitative Review," Appendix A.


**Weeks 1-4**

*Lecture Series 1: Portfolio Theory and Asset Allocation*

BKM, Chapters 5, 6 and 7.

**Week 5**

*Lecture Series 2: Portfolio Theory and Asset Allocation: Some Practical Considerations*

BKM, Chapter 8

**Weeks 6-7**

*Lecture Series 3: Risk and Return in Equilibrium: The Capital Asset Pricing Model (CAPM)*

BKM, Chapter 9 and Section 27.3.

**Weeks 8-9**

*Lecture Series 4: CAPM: Empirical Evidence*

BKM, Chapter 13.

**Weeks 9-10**

*Lecture Series 5: Multi-Factor Models and the Arbitrage Pricing Theory (APT)*

BKM, Chapter 10.

**Weeks 10-11**

*Lecture Series 6: Performance Evaluation*

BKM, Chapter 24.
Weeks 11-12

Lecture Series 7: Market Efficiency and Return Predictability

BKM, Chapters 11 and 12.

Week 13

Lecture Series 8: Options

BKM, Chapters 20 and 21.

Week 14

Loose Ends and Review