

B7306 Capital Markets and Investments

Professor Jane Li

Syllabus – Spring 2024

Instructor Details

Professor Jane Li
Office hours: by appointment
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I. Course Description

This course has three goals:

1. To introduce the principles of investment and asset management. The majority of the class is concerned with the valuation of financial securities. The concepts covered are heavily used in personal and professional portfolio management, risk management, and corporate finance applications.
2. To introduce a set of tools and concepts that are key to understanding modern financial markets: (a) arbitrage; (b) the term structure of interest rates; (c) portfolio theory, risk control and diversification; (d) equilibrium asset pricing models and the CAPM; (e) efficient and inefficient markets; (f) performance evaluation; (g) pricing and hedging basic derivative securities (futures and options).
3. To provide sufficient background knowledge for students seeking an overview of capital markets and an introduction to advanced finance courses.

Topic Summary

- 3 classes: Overview of Capital Markets
- 5 classes: Fixed Income Securities
- 6 classes: Equities, Portfolio Choice, and the CAPM
- 5 classes: Investment Performance Analysis and Funds
- 2 classes: Behavioral Finance
- 2 classes: Valuation of Options
- 1 classes: Review

Throughout the course, we will address two basic questions:

1. How should we manage and evaluate portfolios of investments?
2. Which methods do we use to value securities?

Connection with the Core

Capital Markets builds on knowledge from Corporate Finance, Managerial Statistics, and Business Analytics courses by advancing students' understanding of asset valuation and investment decisions. **The corporate finance and statistics courses or their equivalents are co-requisites for Capital Markets.** We build on the valuation tools in Corporate Finance, such as time value of money, risk-return trade-offs, the CAPM, cost of capital, and arbitrage. Capital Markets uses many concepts from Statistics, including statistical modeling, random variables and distributions, parameter estimators, hypothesis testing, and regression. Particularly in the portfolio and risk management section, the course uses optimization methods and modeling tools from Business Analytics. Finally, our discussions of the economy's impact on financial markets, especially bond markets, build on ideas from the Global Economic Environment course.

II. Course Materials

Class Notes – We post PDFs of lecture notes and other reading materials on Canvas. Students download, view, and mark up lectures on their (CBS) tablets or other e-devices.

Readings – The textbook below is a **useful but optional** supplement for this course:

- *Investments* by Bodie, Kane, and Marcus (hereafter BKM), 10th or later edition
- *Solutions Manual for Investments* by Nicholas Racculia, 10th or later edition

Throughout the course, we will list relevant chapters in BKM that correspond to each lecture. The more recent editions of BKM have the same chapter topics and numbers. Beyond the textbook, **supplementary readings** are available on Canvas, including articles from industry, academia, and the media that relate to key lecture topics.

III. Course Administration

Finance and Economics Division: Michelle Zern: mz2492@gsb.columbia.edu

Teaching assistants: TBD

Review Sessions

There will review sessions (usually online) run by teaching assistants to assist you with assignments and digest what is covered in the class. These sessions are completely optional, and no new material will be covered. Before midterm and final exam, I will also conduct additional review sessions. You should feel free to contact the TAs with any questions, especially regarding homework assignments.

This course is conceptually and analytically challenging, and will require a large time commitment from students. You are welcome to stop by my office hours to discuss specific questions on any of the course topics, or other interesting areas of finance and economics. In addition, if you have any concerns about the course, please let me know.

Groups

Assignments should be done in **groups of 3**. Students are responsible for organizing these groups and should add all group members to one of the Assignment Groups on Canvas.

IV. Grading

Students' course grades are based on applying the standard CBS elective grading distribution to overall course scores. The CBS grading curve applies only to the overall course score, not to individual assignments. The six components of the overall course score appear below:

- 35% Problem sets and cases (team)
- 20% Midterm exam (individual)
- 30% Final exam (individual)
- 15% Weekly quizzes and class participation (individual)

Problem sets and cases – There will be in total four assignments (2 problem sets and 2 cases). All assignments must be submitted online via Canvas and should be done in groups of 3 members. Cases and solutions will be available only on Canvas. Submitted cases will be graded on a 0 to 5 scale. Because we may discuss case solutions in class, **late cases cannot be accepted.**

Midterm Examination – The midterm will be a timed 1.5-hour exam. The exam can be taken virtually anytime between week 6 and week 7.

Final Examination – The final will be a timed 3-hour exam. The exam can be taken virtually any time between April 19th – April 26th.

Exam/quiz Rules: Students can use any books, references, or computing equipment on exams/quizzes but they cannot communicate with others. During exam/quiz periods, students who have taken the exam/quiz must not discuss the exam/quiz with other students who have not yet taken the exam/quiz. The CBS Honor Code applies.

Class Participation – You will gain points by regularly attending class, being prepared, answering questions, asking questions, and generally by providing positive externalities to the other members of the class. You lose points by not coming to class, not participating in the class, not being prepared, and particularly by distracting or disruptive behavior. *Please note that laptops, phones, etc. should be turned off.*

Weekly Canvas Quizzes– Each week, students must individually take a short quiz on Canvas before the start of the next class. Each quiz consists three or four review questions based on the week's lectures. Quizzes must be taken individually. Quiz scores

count toward your grade. Just taking a quiz (and even scoring a zero) will still get you some credit for the quiz. Not taking a quiz gets you zero credit.

Generative AI Policy— Students in this course may only use Generative AI tools, such as ChatGPT, for idea generation and must include a citation describing any usage. Using these tools to generate responses to assignments violates CBS's Honor Code, and I will report suspected instances of plagiarism. Please contact me if you have any questions about this policy.

V. Guest Speaker

We will have two guest speakers to talk about real-world applications of the concepts we study in class. The guest lecture is optional and will take place outside regular class hours. Please see below for details:

- Ray Dalio, Bridgewater, April 3, 2024, 6-7:30pm Cooperman Commons
- Joe Mecane, Citadel Securities, March 22, 2024, 10-11:30am, Location TBD