

B8306 – Capital Markets and Investments Syllabus

Updated: March 6, 2024

Material subject to change

1. Contact information and class times

Name	Email	Office	Office hours
Harry Mamaysky (prof)	hm2646@columbia.edu	Kravis 1153	By appointment
TA	TBD		

Section	1	2
Class time	MW (or F) 9am-12:15pm	MW (or F) 2:20-5:35pm
Meeting dates	MW 5/20-6/28; F 5/31, 6/21	
Location	TBD	
Math review	F 10:50am-12:20pm 5/24 (Geffen 590)	
Weekly reviews	F 10:50am-12:20pm 6/7, 6/14, 6/28 (Geffen 590)	

Note: Math and weekly review sessions are optional.

2. Description

This course has three goals:

1. Introduce the principles of investing from an applied perspective. Leading applications include personal and professional portfolio management, risk management, and security valuation.
2. Introduce the following concepts:
 - 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. institutional details and taxes.
3. To provide sufficient background knowledge for students seeking an overview of capital markets and an introduction to advanced finance courses.

Connection to other courses

Capital Markets uses and builds upon the basic valuation tools developed in Corporate Finance, such as arbitrage, time value of money, understanding risk-return trade-offs, the CAPM, and asset valuation. Capital Markets uses many concepts from Statistics, such as random variables,

probability distributions, regression and hypothesis testing. Particularly in the portfolio choice section, the course uses optimization methods and modeling tools from Business Analytics.

3. Materials

Textbook. Recommended textbooks can be purchased at the Columbia University Bookstore:

- *Investments* by Bodie, Kane, and Marcus (hereafter BKM), 9th, 10th or 11th edition
- *Investments, Student Solutions Manual* by Bruce Swenson, 9th, 10th or 11th edition.

Course notes. Notes will be available on Canvas before each class.

Additional readings. Relevant articles from industry, academia, and the popular press will be provided throughout the course.

Supplementary material. In the past, students have asked for supplementary references for some of the course materials. For fixed income, you can consult:

- *Fixed Income Securities: Tools for Today's Markets*, by Bruce Tuckman,
- *Fixed Income Markets and Their Derivatives*, by Suresh Sundaresan.

For the options the all-time classic textbook is:

- *Options, Futures and Other Derivatives*, by John Hull.

These books deal with advanced topics, but the introductory parts are good, and they have excellent institutional details.

4. Grading and exams

The course grade will be based on class participation, two one-hour quizzes, and an exam:

Tentative (may change)

Class participation	5%
Quiz 1	25%
Quiz 2	25%
Final exam	45%

Quizzes and the final exam are open book. Because this is a 6-week course, there are no assignments. Sample problems will be handed out prior to the quizzes and the final exam.

Class etiquette

Class participation and core culture. We will have regular class discussions about course material – active participation in these is strongly encouraged. I expect you to attend class regularly.

Electronic devices. You can use cell phones for in-class polls, but please turn off your ringers. Also it's okay to use laptops to take notes and work through Excel examples while in class.

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.

5. Class schedule

2024	#	Section	Topic	BKM
05/20/24 Mon	1	Intro1	Overview, returns, role of markets, course mechanics	1, 2
		Intro2	Stocks vs bonds, interest rates, and bonds and NPV	3, 14
05/22/24 Wed	2	Intro3	Silver Inc and NPV, no-arbitrage, arbitrage in practice	3
		Intro4	Leverage and shorting	3
05/27/24 Mon			** no class **	20
05/29/24 Wed	3	FI1	Bond intro, zeros and spot rates	14
		FI2	Pricing coupons bonds and bond yields	5, 15
05/31/24 Fri	4	FI3	Term structure of interest rates, forwards, swaps	15
		FI4	Duration	16, 14
06/03/24 Mon	5	FI5	Immunization and interest rate risk	14
		FI6	Credit risk and corporate bonds	14
06/05/24 Wed	6	EQ1	Intro to equities, performance and risk, valuation	5, 18
		EQ2	Valuation, historical returns and portfolio math	5, 6, 7
06/10/24 Mon	7	EQ3	Diversification and mean-variance efficiency (MVE)	8, 9
		EQ4	Justifying the MVE portfolio and building to CAPM	9
06/12/24 Wed	8	EQ5	CAPM uses and the security market line (SML)	9
		EQ6	Estimating CAPM regressions, betas, and risk	10, 13
06/17/24 Mon	9	Eff1	Anomalies and multifactor models	4, 11, 24
		Eff2	Performance evaluation	11, 24
06/19/24 Wed			** no class **	
06/21/24 Fri	10	Eff3	Performance of mutual funds and market efficiency	
		ID1	Managed investment vehicles	26, 27
06/24/24 Mon	11	ID2	Target date funds	
		ID3	Taxes and tax strategies	
06/26/24 Wed	12	ID4	Finish taxes	
			Course review	
07/02/24 Tue			Final Exam -- takehome during finals week	
Key: FI=Fixed Income, EQ=Equities, Eff=Market Efficiency, ID=Institutional Details				