

# B8306 – Capital Markets and Investments

## Fall 2023 Syllabus

*Updated: July 10, 2023*

### I CONTACT INFORMATION AND CLASS TIMES

	Name	Email	Office location	Office hours
Professor	Harry Mamaysky	hm2646@columbia.edu	Kravis 1153	By appointment
TA	TBD		TBD	TBD

Section	001
Class time	MW 10:50am-12:20pm Fri Sept 8 10:50am-12:20pm
Location	Geffen 390
Weekly reviews <sup>‡</sup>	Fridays 5:15-6:45pm
Math review	TBD
Midterm review	TBD
Final review	TBD

<sup>‡</sup>All review sessions are optional.

### II DESCRIPTION

This course has three goals:

1. To introduce the principles of investing from an applied perspective. Leading applications include personal and professional portfolio management, risk management, and security valuation.
2. To introduce the following concepts:
  - i. arbitrage,
  - ii. the term structure of interest rates,
  - iii. duration and immunization,
  - iv. portfolio choice and diversification,
  - v. equilibrium asset pricing (the CAPM),
  - vi. systematic and idiosyncratic risk,
  - vii. performance evaluation,
  - viii. market efficiency,
  - ix. factor investing.
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.

## GUEST SPEAKERS

As in prior years, we will have guest speakers to talk about real-world applications of the concepts we study in class.

## III MATERIALS

**Textbook.** Recommended textbooks can be purchased at the Columbia University Bookstore and are on reserve in Watson library:

- *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 distributed in each class, and will be available on Canvas.

**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 material covered in the course. The book *Capital Markets and Investments* by Siddhartha Dastidar (an adjunct professor at Columbia) is not as detailed as BKM but closely tracks our course material and may be a useful reference.

The following textbooks, which are *not required*, offer more detail on some of the topics we cover in class.

There are 2 textbooks which get into more detail on the fixed income portion of the course:

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

For the options part of the course, take a look at the all-time classic introductory book on options:

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

All 3 books deal with pretty advanced topics, but the introductory parts are quite good, and they are full of really great institutional detail on how these markets actually work.

## IV GRADING, ASSIGNMENTS, AND EXAMS

The course grade will be based on cases, problem sets, class participation, an in-class midterm and an in-class final exam. The components of the grade are as follows:

Cases	15%
Problem sets	25%
Class participation and weekly quizzes	15%
Midterm exam	20%
Final exam	25%

### ASSIGNMENTS

**Groups.** Cases and problem sets should be done in **groups of 3 members** (MBA assignment type A). Students are responsible for organizing these groups and should add all group members to one of the Assignment Groups on Canvas. While you are encouraged to talk to other groups when working on cases and problem sets, the answers you hand in should be your own. Please do not hand in an assignment that is identical to that of another group. You should not copy answers from prior years' case and problem set solutions.

**Cases.** There will be four case assignments, though the first is intended as a review and will not be graded. Each case will be distributed at least one class in advance and due by 10:50am on the due date. Cases and solutions will be available on Canvas. Because case solutions are discussed in class, late cases will not be accepted.

**Problem sets.** There will be six problem sets, though the first is intended as a review and will not be graded. Each problem set will be distributed one week in advance and will be due by 11:59pm on the due date. Problem sets and solutions will be available on Canvas.

**Grading of cases and problem sets.** Cases and problem sets will be graded on a 1–10 scale.

### CLASS PARTICIPATION

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

**Electronic devices.** Please note that you will use cell phones for in-class polls, though should be set to silent. Also it's okay to use laptops to take notes and work through some Excel examples while in class.

**Weekly Canvas quizzes.** Each week, students must take a short quiz on Canvas between Wednesday at 6pm and the following Monday at 10:50am. Each quiz consists three or four review questions based on the week's lectures and readings. Quizzes must be taken individually. Any books, references, computing or calculating equipment may be used. Quiz scores count toward the participation component of your grade. Solutions will be posted soon after quizzes are due. Just taking a quiz (and even scoring a zero) will still get you over half of the credit for the quiz. Not taking a quiz gets you zero credit.

## EXAMS

Any books, references, computing or calculating equipment may be used.

- The midterm exam will be electronic and can be taken during the midterm exam week.
- The final exam will be electronic and can be taken during the final exam week.

The exact timing of the midterm and final will be announced later. You can contact me with any exam scheduling questions.

## V REVIEW SESSIONS AND OFFICE HOURS

Optional review sessions, led by the course TAs, will be held almost every week (see calendar on Canvas) on Fridays 5:15-6:45pm. Review sessions will cover no new material, and will emphasize working through problems and answering student questions. In addition to review sessions, there will be regular office hours held by the TAs. You can also schedule a time to see me.

The first review session (TBD) will be an overview of math and statistics concepts that will be useful for the course. If you're feeling a little uneasy about your math skills, it's well worth attending.

I will hold two special (optional) review sessions, one each before the midterm and final exam. The times of these will be announced in class.

## VI OUTLINE

\*\*\* Course and assignment schedule. *SUBJECT TO CHANGE.* \*\*\*

2023	#	Section	Topic	BKM	Assign	Due Date			
09/08/23	Fri	1	Intro	Overview; Discounting, Arbitrage, & Shorting	1, 2	Case 0	09/15/23	Fri	
09/11/23	Mon	2	Intro	Shorting, Leverage, and No-arbitrage	2, 3	PS 0		09/25/23	Mon
09/13/23	Wed	3	FI1	The Investments Ecosystem	14				
09/18/23	Mon	4	FI2	Pricing STRIPS and Coupon Bonds	15	PS 1		10/01/23	Sun
09/20/23	Wed	5	FI3	Term Structure of Interest Rates	16				
09/25/23	Mon	6	FI4	Interest Rate Risk (Duration)	16	Case 1		10/09/23	Mon
09/27/23	Wed	7	FI5	Risk Management (Immunization)	16	PS 2		10/11/23	Wed
10/01/23	Sun	8	FI6	The Fed, Monetary Policy, and Rates	5, 18				
10/03/23	Tue	9	EQ1	Corporate Debt Valuation	6	PS 3		10/13/23	Fri
10/09/23	Mon	10	EQ2	DDMs and the Gordon Growth Model	7				
10/11/23	Wed	11	EQ3	Diversification	8, 9				
<b>Midterm Exam -- takehome during midterms week</b>									
10/23/23	Mon	12	EQ4	The Efficient Frontier	8, 9				
10/25/23	Wed	13	EQ5	The CAPM – Theory	9, 11				
10/30/23	Mon	14	EQ6	The CAPM – Applications	10, 13	PS 4		11/13/23	Mon
11/01/23	Wed	15	EQ7	Equity Strategies	4, 24				
11/06/23	Mon	16	EQ8	Factor Models	12	Case 3		11/20/23	Mon
11/08/23	Wed	17	MS1	Managed Investment Vehicles	26, 27				
11/13/23	Mon	18	MS2	Taxes and Tax Strategies	12				
11/15/23	Wed	19	MS3	Fund Performance Evaluation	20	PS 5		12/04/23	Mon
11/20/23	Mon	20		Speaker Brief & Debrief					
11/27/23	Mon	21		Speaker Brief & Debrief					
11/29/23	Wed	22		Speaker Brief & Debrief					
12/04/23	Mon	23		Speaker Brief & Debrief					
12/06/23	Wed	24		Course Summary					
<b>Final Exam -- takehome during finals week</b>									