

**B8306 CAPITAL MARKETS AND INVESTMENTS****Spring 2024 (Updated Nov. 14, 2023)****PROFESSOR: BRIAN P. LANCASTER**

Phone: 860-898-0436

E-mail: [blancaster.nyc@gmail.com](mailto:blancaster.nyc@gmail.com)

Office: Kravis 781

Office Hours: Please contact me and we can arrange a meeting or call.

Office hours: TA/CA - by appt. in-person or remote.

**SCHEDULE AND LOCATION**

Session 5: Tues, Thurs 9:00AM – 10:30AM

Session 6: Tues, Thurs 10:50AM – 12:20PM

Classroom: Kravis 640

Weekly Optional Reviews: TBA

Midterm Exam: Take-home, window indicated below

Final Exam: Take-home, window indicated below

**TEACHING/COURSE ASSISTANTS****Section 1:****TBD**

Phone:

Email: TBD

**TBD**

Phone: TBD

Email: TBD

**Section 2:****TBD**

Phone: TBD

Email: TBD

**TBD**

Phone: TBD

Email: TBD

Communications from professor and teaching assistants about the course will take place through Canvas. Students should make sure they regularly check for announcements and messaging notifications.

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**I COURSE DESCRIPTION**

This first course in capital markets and investments has three goals:

1. To understand and apply the principles of investing and asset management. The majority of the course covers the valuation of bonds, stocks, and with a small amount on options. The concepts covered are heavily used in personal and professional portfolio management, risk management and corporate finance application. Key applications include personal and professional portfolio management, risk management, security valuation, and capital structure..
2. To develop the following concepts: arbitrage, portfolio theory, equilibrium asset pricing models and the CAPM, risk-return trade-offs, diversification, systematic and idiosyncratic risk, expected returns, market efficiency, performance evaluation, the term structure of interest rates, bond duration, and pricing and using as a hedge, basic derivatives including swaps and options. Given this professor's 30 year experience on Wall Street, these two sections will take both a theoretical approach followed by an applied one so students understand both the "theory" and "reality" of these concepts
3. To provide sufficient background knowledge for students seeking an overview of capital markets and an introduction to advanced finance courses for which this course is often a required pre-requisite.

The main topics can be summarized in the following groups:

- 3 classes: Intro to Capital Markets
- 6 classes: Fixed Income Securities
- 7 classes: Equities
- 2 classes: Market Structure
- 1 class: Market Efficiency
- 2 classes: Behavioral Finance
- 1 class: Valuation of Options

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 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 speaker

As in prior years, we will have a guest speaker come give a talk to the class. The guest speaker is a practitioner working in the investing field. Attendance and active participation is required. The guest speaker this year is the Chief Investment Officer of Prudential Insurance managing a \$1trillion portfolio of assets. She is also an alumna of Columbia Business School.

## II COURSE 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.

### III GRADING, CASES, 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 (Team of 3)	15%
Problem sets (Team of 3)	25%
Class participation and weekly quizzes (Ind.)	15%
Midterm exam (Individual)	20%
Final exam (Individual)	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. Copying of answers from a prior year case, problem set, or another student's work or team is a violation of the Columbia Business School Honor Code. This is a violation of the Columbia Business School honor code and will result in an F for that assignment or case. Multiple violations may result in an F for the course.

**Cases.** There will be three or four case assignments. Each case will be distributed at least one class in advance and due before your course section meets on the due date. Cases and solutions will be available on Canvas. Because case solutions may be discussed in class, late cases will not be accepted. Violations of the Columbia Business School Honor Code on any assignment or case by any one or more team member will result in an F on the assignment for all team members.

**Problem sets.** There will be four 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. Violations of the Columbia Business School Honor Code will be given an F for the entire team.

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

**Class participation and core culture.** We will have regular class discussions about course material – active participation in these is encouraged and will make up most of your participation grade. You will

also gain points by regularly attending class, by being prepared, and by being a good classmate. Class attendance will be taken.

**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 officially sanctioned laptops to take notes and work through some Excel examples while in class. Electronic devices may only be used for work related to the course.

**Weekly Canvas quizzes.** Each week, students must take a short quiz on Canvas between Thursday at 6pm and the following Tuesday at 9:00am. Each quiz consists of no more than three 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. Quizzes are a great way to make sure you understand the key takeaways from the week's lectures.

## Exams

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

- The midterm exam will be electronic and must be taken during dates indicated.
- The final exam will be electronic and must be taken during dates indicated.
- **The midterm and final exam are to be done individually. Violations of the Columbia Business School Honor Code on the midterm or final exam will result in an F for the exam and an F for the entire course.**

The timing of the midterm and final indicated in the syllabus is approximate. The Office of Student Affairs (OSA) will assist with any exam scheduling conflicts.

## 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 answers to assignments, cases or exams violates CBS'S Honor Code. Suspected instances of plagiarism will be reported. Please contact me if you have any questions about this policy.

## IV REVIEW SESSIONS AND QUESTIONS

There will be optional review sessions every week, led by the course TAs. Review sessions will cover no new material, and will emphasize working through problems and answering student questions. In addition to review sessions, students should contact the TAs to set up an in person or remote meeting should you have any questions regarding homework assignments. You can also schedule a time to see me in person or remotely. During the last half of the course I will set up small group meeting times so students can meet with me in my office to discuss careers, markets or whatever else is on their mind.

## V COURSE OUTLINE

**\*\*\* Course and assignment schedule. This is a tentative schedule of topics to be covered. Cases/assignment dates are preliminary. \*\*\***

***SUBJECT TO CHANGE***

Class	Date	Topic	Chapters in BKM	Assignment (Type)*
1	Jan-23	MKTS1 – Overview of Course and Financial Markets	1, 2	
2	Jan-25	MKTS2 – Investing stocks, bonds, interest rates, NPV, IPOs	2, 3	Case 1 (A) due TBD
3	Jan-30	MKTS3 - Valuation and Returns, leverage	14	
4	Feb-1	FI1: - Term structure of Interest Rates, Fed policy	15	
5	Feb 6	FI2: – Spot and Forward Rates, no arbitrage		
6	Feb-8	FI3 - Interest Rate Risk (Duration)	16	Case 2 (A) due TBD
7	Feb-13	FI4 - Managing Rate Risk; US Treasury Auctions	16	
8	Feb-15	FI5 - Duration Applications	16	PS 1 (A) due TBD
9	Feb-20	FI6 - Floating Rate Notes, Swaps, Corp. Bonds, Credit Risk	16	
10	Feb-22	EQ1 - Equity Valuation	5, 18	PS 2 (A) due TBD
11	Feb-27	EQ2 -Portfolio Optimization	6, 7	
12	Feb-29	EQ3 -CAPM applied; Est. CAPM regressions, beta, alpha	8, 9	
		<b>Midterm Exam (C) Take home, Mar 6 – Mar 12 11:59PM</b>		
13	Mar-19	EQ4 – CAPM Anomalies and multifactor models	8, 9	
14	Mar-21	EQ5 – Beyond the CAPM		
15	Mar-22	<b>Guest Speaker: Joe McCane, Citadel, 10AM to 11:30AM (Fri)</b>		
16	Mar-26	<b>No Class</b>		PS 3(A) due TBD
17	Mar-28	EQ6 – Performance evaluation: Skill versus Luck	9, 11	Case 3 (A) due TBD
18	Apr-2	EQ7 – Applications, info. ratio, idiosyncratic vol.	10, 13	
19	Apr-3	<b>Guest Speaker: Ray Dalio, Bridgewater, 6pm–7:30PM (Wed)</b>		
20	Apr-4	BF1 – Limits to arbitrage	12	
21	Apr-9	<b>No class</b>		
22	Apr-11	BF2 – Behavioral Biases	26, 27	PS 4(A) due TBD
23	Apr-16	EFF1: Mutual Funds and market efficiency		
24	Apr-18	MS1: Managed Investment Vehicles	26, 27	PS 5 (A) due TBD
25	Apr-23	MS2: TAXES – Taxes on Investment Income, tax strategies	12	
26	Apr-25	OPT1 - Payoffs and Arbitrage Relationships	21	
		<b>Final Exam (C): Canvas, Sat. Apr 29 8AM – Fri. May 5</b>		

\*Cases and problem sets must be submitted to Canvas before your course section meets on their due dates. Official MBA assignment types appear in parentheses. Due dates on all cases and assignments will be updated.

A = team/team, B = team/individual, C = individual/individual

Key: MKTS=Markets; FI=Fixed Income; EQ: Equities; BF: Behavioral Finance; EFF=Market efficiency; MS: Market Structure; OPT= options.

BKM refers to the textbook by Bodie, Kane and Marcus.

