

**B8306 Capital Markets and Investments**  
**Professor Paul Tetlock**  
**Preliminary Fall 2020 Syllabus**  
**(To Be Finalized in September)**

**Contact Details:**

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Uris 811  
Office hours by Zoom appointment  
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**I. Course Description**

This course has three goals:

1. To understand and apply the principles of investing. The course covers the valuation of bonds, stocks, and options. Key applications include personal and professional portfolio management, risk management, security valuation, and capital structure.
2. To develop the following concepts: risk-return trade-offs, diversification, systematic and idiosyncratic risk, expected returns, market efficiency, performance evaluation, arbitrage, the term structure of interest rates, bond duration, and options.
3. To provide sufficient background knowledge for students seeking an overview of capital markets and an introduction to advanced finance courses.

The main topics can be summarized in the following groups:

- 3 classes: Intro to Capital Markets
- 5 classes: Fixed Income Securities
- 4 classes: Portfolio Choice
- 3 classes: Investment Performance
- 3 classes: Behavioral Finance
- 6 classes: 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 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. 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, 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 will distribute handouts of the lecture notes in class and will post electronic copies of the lecture notes and other reading materials on Canvas.

**Readings** – The textbook below is useful supplemental material for this course:

- *Investments* by Bodie, Kane, and Marcus (hereafter BKM), 11<sup>th</sup> or 12<sup>th</sup> edition
- *Solutions Manual for Investments* by Nicholas Racculia, 11<sup>th</sup> or 12<sup>th</sup> edition

Reading the textbook is **optional**. The book and solutions manual are available on reserve in Watson library. Relevant chapters in BKM appear alongside each lecture in the course outline. Both editions of BKM have the same chapter topics and numbers.

Beyond the textbook, there will be **supplementary readings** available on Canvas, including relevant articles from industry, academia, and the media.

## III. Course Administration

Finance and Economics Division: Michelle Zern: [mz2492@gsb.columbia.edu](mailto:mz2492@gsb.columbia.edu)

### Teaching Assistants:

The names and e-mail addresses of the teaching assistants are:

- Rittavee “Ritt” Keerati (Head TA): [RKeeratiwutthikul22@gsb.columbia.edu](mailto:RKeeratiwutthikul22@gsb.columbia.edu)
- Seyed Mansouri: [SMansouri21@gsb.columbia.edu](mailto:SMansouri21@gsb.columbia.edu)

Teaching assistants will post rooms and times for office hours each week on Canvas.

Please contact your teaching assistants if you have questions about the course.

**Review Sessions** – Optional weekly (Friday) review sessions will be held throughout the semester to help students with questions about cases, problem sets, or lectures:

- Fridays from 12:30pm to 2pm in Uris 332

See the review session calendar on Canvas for details, updates, and exceptions. Review sessions will emphasize examples and material requested by students in attendance.

Special sessions will be held for an initial math/stats review and before each of the two exams (midterm and final) as follows:

- Review of Math and Stats Background
  - o Room/time TBA (early September), led by Head TA, Ritt Keerati
- Midterm Review Sessions
  - o Room/time TBA (mid-October), led by Prof. Tetlock
  - o Room/time TBA (mid-October), led by Head TA, Ritt Keerati
- Final Review Sessions
  - o Room/time (mid-December) TBA, led by Head TA, Ritt Keerati
  - o Room/time (mid-December) TBA, led by Prof. Tetlock

**Teams** – Cases and problem sets should be done in **teams of 3 members** (MBA Assignment Type A). Learning teams will be assigned randomly. Teams might span across Professor Tetlock's three Capital Markets sections, and team composition might change during the add/drop period. All team members must contribute to each group assignment. Each team member receives the same grade for all team assignments.

#### 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 five components of the overall course score appear below:

- 20% Cases
- 20% Problem sets
- 20% Midterm exam
- 25% Final exam
- 15% Class participation, including quizzes

**Cases (20%):** There will be four case assignments. Each case will be distributed one week in advance and **must be submitted by 10am on the due date**. All assignments can be submitted online via Canvas. Cases and solutions will be available only on Canvas. Submitted cases will be graded on a 0 to 3 scale. Because we discuss case solutions in class, late cases cannot be accepted.

**Problem Sets (20%):** There will be four problem sets. Each problem set will be distributed at least one week in advance and **must be submitted by 10am on the due date**. All assignments can be submitted online via Canvas. Problem sets and solutions will be available only on Canvas. Submitted problem sets will be graded on a 0 to 3 scale. Late problem sets cannot be accepted.

**Class Participation (15%):** This evaluation is based on a student's contribution to learning inside and outside the classroom. It includes the following four components:

- **Attendance (3%):** Attending class is 20% of your class participation grade. We use Poll Everywhere software to record attendance. If you do not submit a response to at least one Poll Everywhere question in lecture, you will be marked absent. Submit an **Excused Absence Form** on the course home page if you must miss class for an excused reason, such as an illness. Interviews are not excused.
- **Poll Everywhere Responses (3%):** Scores based on correctly answering in-class questions administered via Poll Everywhere are also 20% of participation.
- **Weekly Quizzes (6%):** Scores on weekly Canvas quizzes are 40% of participation. Students must take quizzes **individually**. Each weekly quiz will be available on **Canvas** between Thursday at 6pm and the following **Tuesday at 10am**. Because we discuss solutions soon after quizzes are due, late quizzes cannot be accepted. Quizzes usually consist of **three questions** based on the week's lectures and readings. Any books, references, or computing equipment can be used. Quizzes are timed and must be submitted within **15 minutes** of starting.
- **Submitting Weekly Quizzes (3%):** The final 20% of participation comes from the fraction of weekly Canvas quizzes that you submit. If you submit all weekly quizzes, you receive full credit here.

**Midterm Examination (20%)** – The midterm will be a timed 3-hour online exam administered via Canvas. Students will take the exam between **October (date TBA) at 6pm and (date TBA) at midnight (a one-week interval)**. Students can use any books, references, and computing devices. During the exam period, students who have taken the exam must not discuss the exam with other students who have not yet taken the exam. The Columbia Business School Honor Code applies.

**Final Examination (25%)** – The final will be a timed 3-hour online exam administered via Canvas. Students will take the exam between **December (date TBA) at 6pm and December (date TBA) at midnight (a one-week interval)**. Students can use any books, references, and computing devices. During the exam period, students who have taken the exam must not discuss the exam with other students who have not yet taken the exam. The Columbia Business School Honor Code applies.

## **V. Expectations Inside and Outside the (Physical and Virtual) Classroom**

Bring your nameplate and expect cold calling in class and on Zoom. Activities that enhance learning in the classroom and on Zoom include listening thoughtfully, answering questions, keeping up with readings, sharing well-formulated ideas, helping a classmate understand a concept, and coming to review sessions. **Please do not use mobile devices, including phones, laptops, or tablets.**

Activities that enhance learning outside the classroom include taking weekly Canvas quizzes, helping team members solve assignments, and attending the guest lecture.

**VI. Content Outline for All Tu/Th Sections: 10:45am, 2:15pm, and 4:00pm**

Class	Date	Topic	Chapters in BKM	Assignment (Type)*
1	8-Sep	MARKETS - Overview	1, 2	
2	10-Sep	MARKETS - Investing	2, 3	Case 1 (A) due 17-Sep
3	15-Sep	MARKETS - Valuation and Returns	14	
4	17-Sep	FIXED INCOME - Interest Rates	15	
5	22-Sep	FIXED INCOME - Interest Rate Risk (Duration)	16	Case 2 (A) due 29-Sep
6	24-Sep	FIXED INCOME - Managing Rate Risk	16	
7	29-Sep	FIXED INCOME - Duration Applications	16	PS 1 (A) due 6-Oct
8	1-Oct	FIXED INCOME - Default Risk	16	
9	6-Oct	PORTFOLIO CHOICE - Equity Valuation	5, 18	PS 2 (A) due 13-Oct
10	8-Oct	PORTFOLIO CHOICE - Portfolio Optimization	6, 7	
11	13-Oct	PORTFOLIO CHOICE - The Market and the CAPM	8, 9	
12	15-Oct	PORTFOLIO CHOICE - Beating the Market?	8, 9	
<b>13</b>	<b>TBA</b>	<b>Midterm Exam: Canvas, Oct TBA (one-week interval)</b>		
14	27-Oct	PERFORMANCE EVALUATION - Beyond the CAPM	9, 11	Case 3 (A) due 5-Nov
15	29-Oct	PERFORMANCE EVALUATION - Skill versus Luck	10, 13	
16	5-Nov	PERFORMANCE EVALUATION - Applications	4, 24	PS 3 (A) due 12-Nov
17	10-Nov	BEHAVIORAL FINANCE - Limits to Arbitrage	12	
18	<b>12-Nov</b>	<b>Guest Speaker: TBA, Room and Time TBA</b>	26, 27	
<b>19</b>	17-Nov	BEHAVIORAL FINANCE - Behavioral Biases	26, 27	
20	19-Nov	OPTIONS - Payoffs and Arbitrage Relationships	20	PS 4 (A) due 3-Dec
21	24-Nov	OPTIONS - Valuing an Option	21	
22	1-Dec	OPTIONS - Black-Scholes Valuation	21	
23	3-Dec	OPTIONS - Applications	21	Case 4 (A) due 10-Dec
24	8-Dec	OPTIONS - Applications		
25	10-Dec	SUMMARY - Option Case and Course Recap		
<b>26</b>	<b>TBA</b>	<b>Final Exam: Canvas, Dec TBA (one-week interval)</b>		

\* Cases and problem sets must be submitted to Canvas by 10am on their due dates

Official MBA assignment types appear in parentheses

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