B8306 Capital Markets and Investments
Professor Paul Tetlock
Preliminary Fall 2019 Syllabus
(to be finalized in September)

Contact Details:

Professor Paul Tetlock
Uris 811
Office hours by appointment
E-mail: paul.tetlock@columbia.edu

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), 10th or 11th edition
- Investments, Student Solutions Manual by Bruce Swenson, 10th or 11th 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

Teaching Assistants:

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

- TBD
- TBD

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 review sessions will be held on Fridays at TBD in TBD. See the review session calendar on Canvas for details, updates, and exceptions. The first review session, which will be held on Sept. 13th, will cover mathematical and statistical background for the class. Additional Friday review sessions throughout the semester will help students with questions about cases, problem sets, or lectures. Review sessions will
emphasize examples and material requested by students in attendance. Special review sessions will be held before the midterm and final exams as follows:

Midterm Review Sessions:

- DoW, Date, time, room (approx. Oct 11)
- DoW, Date, time, room (approx. Oct 11)

Final Review Sessions:

- DoW, Date, time, room (approx. Dec 12)
- DoW, Date, time, room (approx. Dec 12)

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. Email the head TA, Adrien Alvero, 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 11 at 6pm and October 18 at midnight**. 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 12 at 6pm and December 19 at midnight**. 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 Classroom**

Bring your nameplate and expect cold calling in class. Activities that enhance learning in the classroom 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 your team members solve assignments, and attending the guest lecture.
VI. Content Outline for All Tu/Th Sections: 10:45am, 2:15pm, and 4:00pm

<table>
<thead>
<tr>
<th>Class</th>
<th>Date</th>
<th>Topic</th>
<th>Chapters in BKM</th>
<th>Assignment (Type)*</th>
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<tbody>
<tr>
<td>1</td>
<td>3-Sep</td>
<td>MARKETS - Overview</td>
<td>1, 2</td>
<td>Case 1 (A) due 12-Sep</td>
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<td>2</td>
<td>5-Sep</td>
<td>MARKETS - Investing</td>
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<td>3</td>
<td>10-Sep</td>
<td>MARKETS - Valuation and Returns</td>
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<td>4</td>
<td>12-Sep</td>
<td>FIXED INCOME - Interest Rates</td>
<td>15</td>
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<td>5</td>
<td>17-Sep</td>
<td>FIXED INCOME - Interest Rate Risk (Duration)</td>
<td>16</td>
<td>Case 2 (A) due 24-Sep</td>
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<tr>
<td>6</td>
<td>19-Sep</td>
<td>FIXED INCOME - Managing Rate Risk</td>
<td>16</td>
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<td>7</td>
<td>24-Sep</td>
<td>FIXED INCOME - Duration Applications</td>
<td>16</td>
<td>PS 1 (A) due 1-Oct</td>
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<tr>
<td>8</td>
<td>26-Sep</td>
<td>FIXED INCOME - Default Risk</td>
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<td>9</td>
<td>1-Oct</td>
<td>PORTFOLIO CHOICE - Equity Valuation</td>
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<td>PS 2 (A) due 10-Oct</td>
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<td>PORTFOLIO CHOICE - Portfolio Optimization</td>
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<td>8-Oct</td>
<td>PORTFOLIO CHOICE - Applying the CAPM</td>
<td>8, 9</td>
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<td>12</td>
<td>10-Oct</td>
<td>PORTFOLIO CHOICE - CAPM Anomalies</td>
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<td>13</td>
<td>11-Oct</td>
<td>Midterm Exam: Canvas, Oct 11 6pm - Oct 18 midnight</td>
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<tr>
<td>14</td>
<td>24-Oct</td>
<td>PERFORMANCE EVALUATION - Beyond the CAPM</td>
<td>9, 11</td>
<td>Case 3 (A) due 31-Oct</td>
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<td>15</td>
<td>29-Oct</td>
<td>PERFORMANCE EVALUATION - Skill versus Luck</td>
<td>10, 13</td>
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<td>16</td>
<td>31-Oct</td>
<td>PERFORMANCE EVALUATION - Applications</td>
<td>4, 24</td>
<td>PS 3 (A) due 14-Nov</td>
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<td>17</td>
<td>7-Nov</td>
<td>BEHAVIORAL FINANCE - Limits to Arbitrage</td>
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<td>18</td>
<td>TBA</td>
<td>Guest - TBA: time and room</td>
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<td>19</td>
<td>14-Nov</td>
<td>BEHAVIORAL FINANCE - Behavioral Biases</td>
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<td>20</td>
<td>19-Nov</td>
<td>OPTIONS - Payoffs and Arbitrage Relationships</td>
<td>20</td>
<td>PS 4 (A) due 3-Dec</td>
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<td>21-Nov</td>
<td>OPTIONS - Replicating an Option</td>
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<td>22</td>
<td>26-Nov</td>
<td>OPTIONS - Options Examples</td>
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<td>23</td>
<td>3-Dec</td>
<td>OPTIONS - Black-Scholes Valuation</td>
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<td>Case 4 (A) due 10-Dec</td>
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<tr>
<td>24</td>
<td>5-Dec</td>
<td>OPTIONS – Applications</td>
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<tr>
<td>25</td>
<td>10-Dec</td>
<td>OPTIONS – Applications</td>
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<tr>
<td>26</td>
<td>12-Dec</td>
<td>Final Exam: Canvas, Dec 12 6pm - Dec 19 midnight</td>
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* Cases and problem sets must be submitted to Canvas by 9am on their due dates

Official MBA assignment types appear in parentheses

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