

Columbia Business School
B8306 – Capital Markets and Investments
SPRING 2023 Syllabus

Instructor Details:

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Finance B8306
Spring 2023
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Class Times, Review Sessions, Midterm and End-of-Term Exams:

| | <i>Section</i> | | | |
|---------------------------------|----------------|-----------------|-------------|-------------|
| | 001 | 002 | 003 | 004 |
| <i>Class Time: Mon/Wed</i> | 8:30am–10:00am | 10:20am–11:50am | 2:00–3:30pm | 3:50–5:20pm |
| <i>Optional Review Sessions</i> | TBD | | | |
| <i>Midterm Exam</i> | TBD | | | |
| <i>End-of-Term Exam</i> | TBD | | | |

I. Course Description:

This is a first course in capital markets and investments. The course has three principal goals:

1. To introduce the principles of asset valuation from an applied perspective. The majority of the class is concerned with the valuation of financial securities. The valuation issues to be discussed are heavily used in portfolio management and risk management applications.
2. To 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; the CAPM
 - (e) Efficient and inefficient markets
 - (f) Performance evaluation
 - (g) The impact of technology on financial markets
 - (h) Pricing and hedging basic derivative securities (futures and options)
3. To provide sufficient background knowledge for students seeking an overview of capital markets and an introduction to advanced finance courses

II. Course Materials:

TEXTBOOK: The *optional* textbook for the course is *Investments* by Bodie, Kane and Marcus (McGraw-Hill/Irwin), 10th edition or later (BKM), which is on reserve at the Library. There is also a student solutions manual to BKM, also on reserve at the Library.

[†] Rooms are subject to change. Details will always be provided on *Canvas*.

LECTURE NOTES: Will be made available on Canvas.

ADDITIONAL READINGS: Relevant articles from industry, academia, and the popular press will be provided throughout the course.

III. Course Administration:

The course grade will be based on cases, problem sets, class participation and a midterm and final examination. The weights in your course grade are:

| | |
|-------------------------|-----|
| Cases | 15% |
| Problem Sets | 25% |
| Midterm Exam | 20% |
| End of Term Exam | 25% |
| Participation & Quizzes | 15% |

CASES: There will be two graded case assignments, plus an additional case (Case 0) which does not need to be submitted and will not be graded. Cases should be completed 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” available on Canvas.* The groups will remain the same throughout the semester. Each case will be distributed at least one class in advance and due by 9am on the due date. Cases and solutions will be available on Canvas. Submitted cases will be graded on a $\sqrt{+} = 3$, $\sqrt{} = 2$, $\sqrt{-} = 1$ basis. The three case grades are weighted equally in your course grades. Because case solutions are discussed in class, **late cases will not be accepted under any circumstances.**

PROBLEM SETS: There will be four graded problem sets, plus a additional one (Problem Set 0) which is not graded but should still be submitted. Problem sets should be completed with the same 3-member group as the cases (MBA Assignment Type A). Students are responsible for organizing these groups. Each assignment will be distributed at least one week in advance and is due by 5pm on the due date. Problem Sets and solutions will be available on Canvas. Submitted problem sets will be graded on a $\sqrt{+} = 3$, $\sqrt{} = 2$, $\sqrt{-} = 1$ basis. **Late problem sets will not be accepted under any circumstances.**

CLASS PARTICIPATION: You will gain points by regularly attending class, being prepared, answering questions, asking questions, and generally by providing positive externalities to the other members of the class. You lose points by not coming to class, not participating in the class, not being prepared, and particularly by distracting or disruptive behavior. Participation and attendance will be monitored using Poll Everywhere. Please make sure you have a Columbia account which is active before the first day of class. **Please note that phones, and other electronics should be turned off unless specifically stated.**

WEEKLY CANVAS QUIZZES: – Each week, students must take a short quiz on Canvas between Thursday at 6pm and the following Tuesday at 9am. Each quiz consists of no more than three review questions based on the week’s lectures and readings. Quizzes must be taken individually. Books, references, computing or calculating equipment may be used. Quiz scores count towards

the participation component of your grade. Solutions will be posted shortly after the deadline.

MID-TERM EXAMINATION: The mid-term exam time is TBA. The exam can be completed remotely through Canvas but a classroom will also be made available on campus. Exams must be completed individually but books, references, computing or calculating equipment may be used. The usage of online resources is not permitted.

END-OF-TERM EXAM: The end-of-term exam is TBA. The exam can be completed remotely through Canvas. Exams must be completed individually but books, references, computing or calculating equipment may be used. The usage of online resources is not permitted.

Review Sessions and Office Hours:

There will be one review session each Friday. The course's teaching assistant (TBD) will run this session see *Canvas* for details. These sessions are optional, and no new material will be covered. In addition to the weekly review sessions, we will conduct additional review sessions prior to the midterm and final exams. I will generally be teaching these sessions – see *Canvas* for details.

I have no scheduled office hours; in the past I have found that most students get their questions answered at the weekly review sessions. However, if you still don't understand something after attending the review session you should contact the teaching assistant or me by e-mail with questions. If required, we can then schedule an appointment.

Course Teaching Assistant:

Your teaching assistant (TA) will be assigned in the next few months. The main way to interact with the TA, should be by attending the Friday review sessions.

Tips for Studying Finance:

1. WORK PROBLEMS: In my experience, working problems is an integral part of learning finance. While intuition is very important, the language of finance is mathematics, and you will need to learn how to apply this language to make financial decisions. The only way to learn how to do this is by working problems. Try to work through the assigned problem sets on your own before getting together with your homework group. Additionally, there are problems at end of each chapter in the textbook (BKM), and solutions to these problems in the Student Solutions Manual for BKM. Finally, most of the weekly review sessions will probably be devoted to working through problems.
2. ASK QUESTIONS: Ask questions in class. If you have a question about something, you can be assured that someone else has a similar question. Ask questions at the review sessions. Ask lots of questions in your problem set/case groups.
3. DON'T FALL BEHIND: Between classes, recruiting, and other demands on your time, this term will be quite demanding. Keeping up with the material is important!!

IV. Course Outline

Lecture Notes will be handed out at the start of each class, and will also be available on Canvas.

| CLS | DATE | SEC. [†] | TOPIC | BKM [‡] CHPTRS | ASSIGN | ASSIGN DUE DATE* |
|-----|--------|-------------------|---|----------------------------|--------|---------------------|
| 1 | 23-Jan | Intro | Overview, Discounting, Arbitrage and Shorting | 1, 2 | Case 0 | TBA |
| 2 | 25-Jan | Intro | Shorting, Leverage and No-arbitrage | 2, 3 | PS 0 | TBA |
| 3 | 30-Jan | FI | Shorting (continued), Intro to Bond Markets | 14 | | |
| 4 | 1-Feb | FI | STRIPS, Coupon Bonds and YTM (continued) | 15 | Case 1 | TBA |
| 5 | 6-Feb | FI | Interest Rate Risk, Duration | 16 | | |
| 6 | 8-Feb | FI | Duration and Immunization | 16 | | |
| 7 | 13-Feb | FI | Term Structure, Forward Rates | 16 | PS 1 | TBA |
| 8 | 15-Feb | FI | The Fed and Monetary Policy | 18 | | |
| 9 | 20-Feb | EQ | Corporate debt valuation | 6 | PS 2 | TBA |
| 10 | 22-Feb | EQ | DDM and the Gordon Growth Model | 7 | | |
| 11 | 27-Feb | EQ | Diversification | 8, 9 | | |
| 12 | 1-Mar | EQ | The Efficient Frontier | 8, 9 | | |
| 13 | TBA | | MIDTERM EXAMINATION | | | |
| 14 | 20-Mar | EQ | The CAPM – Theory | 9, 11 | | |
| 15 | 22-Mar | EQ | The CAPM – Applications | 10, 13 | PS 3 | TBA |
| 16 | 27-Mar | PE | Equity Strategies | 4, 24 | | |
| 17 | 29-Mar | PE | Factor Models | 12 | Case 2 | TBA |
| 18 | 3-Apr | IM | Managed Investment Vehicles | 26, 27 | | |
| 19 | 5-Apr | IM | Taxes and Tax Strategies | 12 | | |
| 20 | 10-Apr | IM | Fund Performance Evaluation | 20 | PS 4 | TBA |
| 21 | 12-Apr | | Speaker Brief & Debrief | | | |
| 22 | 17-Apr | | Speaker Brief & Debrief | | | |
| 23 | 19-Apr | | Speaker Brief & Debrief | | | |
| 24 | 24-Apr | | Speaker Brief & Debrief | | | |
| 25 | 26-Apr | | Course Summary | | | |
| 26 | TBA | | END-OF-TERM EXAM | | | |

[†]The course sections are: Introduction (Intro), Fixed Income (FI), Equities (EQ), Investment Management (IM).

[‡]BKM refers to the optional textbook by Bodie, Kane and Marcus.

*Subject to change – check *Canvas*. Case assignments are generally due by 9am on the due date, and problem set assignments are generally due by 5 pm on the due date.