

# B6301 Foundations of Valuation

Spring 2024, 1.5 Credits

## PROFESSOR

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Office Hours: Kravis 768, Mondays, 6:00-7:00pm

**TEACHING ASSISTANTS:** Email to schedule office hours

| Name          | Cluster | Email                        |
|---------------|---------|------------------------------|
| Sara Gicevska | 1       | SGicevska25@gsb.columbia.edu |
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Communications from the instructor 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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## COURSE DESCRIPTION

Foundations of Valuation is an introductory finance course that is required for all MBA students. It is therefore designed to cover those areas of finance that are important to all managers whether they specialize in finance or not. At the end of the course, you will be able to make informed financial decisions and value financial securities. In order to reach this goal, we will cover the following topics:

1. Discounting and the time value of money
2. Investment decision rules and capital budgeting
3. Valuation of Treasuries and corporate bonds
4. Valuation of equity
5. Basics of options

The course will provide students with an understanding both of sound theoretical principles of finance and of the practical environment in which financial decisions are made.

## STUDENT LEARNING OUTCOMES

1. Understand and apply the following concepts:
  - a. The time value of money and the net present value (NPV)
  - b. Investment decision rules and capital budgeting
  - c. Spot rates, yield, duration, convexity, and risk premium of bonds
  - d. Dividend yield and capital gain of equity

- e. The Capital Asset Pricing Model (CAPM)
  - f. The payoff function for different options
  - g. The basics of the Black-Scholes formula
2. Use Excel to calculate the valuation of
- a. Investment projects (using NPV)
  - b. Treasuries and corporate bonds
  - c. Equity
  - d. European options (using Black-Scholes)

## CLASSROOM NORMS AND EXPECTATIONS

### Core Culture

Students are expected to adhere to [CBS Core Culture](#) in this class by being Present, Prepared, Participating.

- *Laptop computers and other devices* – Laptops are only allowed when we solve some cases and practice problems in class together. Otherwise, please make sure that your laptops are put away. You should not use phones.
- *Seating* – Your permanent seat will be randomly assigned and announced in the first session.
- *Name cards* – Please bring name cards to every class

### Inclusion, Accommodation, and Support for Students

At Columbia Business School we believe diversity strengthens any community or business model and brings it greater success. The School is committed to providing all students with equal opportunity to thrive in the classroom by providing a learning, living, and working environment free from discrimination, harassment, and bias on the basis of gender, sexual orientation, race, ethnicity, socioeconomic status, or ability.

Students with documented disabilities may receive reasonable accommodations. Students are encouraged to contact the Columbia University's Office of Disability Services for [information about registration](#).

Columbia Business School adheres to all community, state, and federal regulations as relate to Title IX and student safety. Read more about CBS' policies to support [Inclusion, Accommodations and Support for Students here](#).

### Honor Code and Academic Integrity

The [Columbia Business School Honor Code](#) calls on all members of the School community to adhere to and uphold the notions of truth, integrity, and respect both during their time in school, and throughout their careers as productive, moral, and caring participants in their companies and communities around the world. All students are subject to the Honor Code for all of their academic work. Failure to comply with the Honor Code may result in [Dean's Discipline](#). Here you can review [examples of Academic Misconduct](#) which may result in discipline.

Course materials (videos, assignments, problem sets, etc) are for your use in this course only. You may not upload them to external sites, share them with students outside of this course, or post them for public commentary without the instructor's permission

## Course Attendance Policies

Students from all programs should review and be familiar with the [MBA Core Attendance Policy](#) and the [Exam Policy](#).

## METHOD OF EVALUATION

Grades will be calculated using the following weights:

|                      |                                     |
|----------------------|-------------------------------------|
| <i>Assignments</i>   | 40% (I will drop your lowest score) |
| <i>Final Exam</i>    | 50%                                 |
| <i>Participation</i> | 10%                                 |

### Assignments

There will be four individual problem sets and one group case.

You can discuss the concepts related to the problem set with other people in your cluster but the answer to the specific questions in your problem set should be your own individual work. **Problem sets should be submitted electronically (an excel file) through the Drop Box in Canvas strictly before 8.30 am on the day that they are due.** Late submissions will not be accepted. Assignments solutions should be clearly explained and formatted to ensure they are easy to read

The group case should be solved in your learning teams. All analyses should be succinctly and clearly explained within one excel document. Each group will turn in one solution. **Case write-ups should be submitted electronically (an excel file) through the Drop Box in Canvas strictly before 8.30am on the day in which they are due.**

The problem sets and the case write-up will be graded on a ten-point scale. Your grade will depend on the logic of your analysis and the clarity of your write-up.

All your assignment submissions are subject to the [CBS Honor Code](#). Violations of the CBS Honor Code may lead to failing the assignment, failing the course, suspension, and/or dismissal. In order to avoid ambiguity that may lead to unintentional violations of the Honor Code, assignment description types have been standardized and specified [here](#). Case write-ups are “Type A” assignments. Problem sets are “Type B2” assignments.

### Final Exam

The final exam will occur during the exam period at the end of the A-term. Exam questions will resemble the assignments in format and difficulty. Exams must be completed individually but books, references, computing or calculating equipment may be used. You will need your laptop to solve the exam, but the usage of online resources is not permitted.

## COURSE ROADMAP/SCHEDULE

| Session                                                            | Topic(s)                                   | Assignments Due ( <a href="#">Type</a> )   |
|--------------------------------------------------------------------|--------------------------------------------|--------------------------------------------|
| <b>Module 1: Time Value of Money and Investment Decision Rules</b> |                                            |                                            |
| <b>1</b><br>01/22/2024<br>(Mo)                                     | Introduction + Time Value of Money         |                                            |
| <b>2</b><br>01/24/2024<br>(We)                                     | Investment Decision Rules                  |                                            |
| <b>3</b><br>01/29/2024<br>(Mo)                                     | Capital Budgeting and Arbitrage            | Due: Chocolat Cordon Rouge Case (A: Group) |
| <b>Module 2: Treasuries and Corporate Bonds</b>                    |                                            |                                            |
| <b>4</b><br>01/31/2024<br>(We)                                     | Treasury Bond Valuation and Spot Rates     |                                            |
| <b>5</b><br>02/05/2024<br>(Mo)                                     | Yield to Maturity, Duration, and Convexity | Due: Problem Set 1 (B2: Individual)        |
| <b>6</b><br>02/07/2024<br>(We)                                     | Introduction to Risky Assets               |                                            |
| <b>Module 3: Equity</b>                                            |                                            |                                            |
| <b>7</b><br>02/12/2024<br>(Mo)                                     | The Gordon Growth Model                    | Due: Problem Set 2 (B2: Individual)        |
| <b>8</b><br>02/14/2024<br>(We)                                     | The Capital Asset Pricing Model I          |                                            |
| <b>9</b><br>02/19/2024<br>(Mo)                                     | The Capital Asset Pricing Model II         |                                            |
| <b>Module 4: Options</b>                                           |                                            |                                            |
| <b>10</b><br>02/21/2024<br>(We)                                    | Basics of Option Payoffs                   | Due: Problem Set 3 (B2: Individual)        |
| <b>11</b><br>02/26/2024<br>(Mo)                                    | The Black-Scholes Formula                  |                                            |
| <b>Module 5: Course Summary</b>                                    |                                            |                                            |

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------------------------------------------------------|
| <b>12</b><br>02/28/2024<br>(We)                                                                                                                                                                                                                                                                                                                                                                                                                                            | Course Review | Due: Problem Set 4 (B2: Individual)<br>☒ extended to Friday 03/01/2024 |
| <b>Review Sessions</b><br>02/02/2024: Lectures 1 to 4 and the Chocolate Case (9-10:30am Kravis 420)<br>02/09/2024: Lectures 5 to 6 and Problem Set 1 (9-10:30am Kravis 420)<br>02/16/2024: Lectures 7 to 8 and Problem Set 2 (9-10:30am Kravis 420)<br>02/22/2024: Lectures 9 to 10 and Problem Set 3 (6-7:30pm Kravis 490)<br>02/23/2024: Lectures 9 to 10 and Problem Set 3 (9-10:30am Kravis 420)<br>03/01/2024: Course review and Problem Set 4 (9-10:30am Kravis 420) |               |                                                                        |
| <p style="text-align: center;"><b>Final Exam</b> (Tuesday 03/05/2024 9:00am)</p>                                                                                                                                                                                                                                                                                                                                                                                           |               |                                                                        |

## REVIEW SESSIONS

**Review sessions will be held on Fridays from 9:00am to 10:30am.** The schedule and the material that will be covered is above. Any materials covered in review sessions will be posted on Canvas. Our TA team will be responsible for running the review sessions, common to all clusters. You can schedule office hours with your cluster TA by email; they should be the first point of contact for queries about grading or assignments.

## TEXTBOOKS AND MATERIALS

The following items are required:

- **Teaching notes:** Uploaded to Canvas before class. Students should download them before class. These are your primary reference materials for the class.
- **Readings and Assignments:** All readings and assignments are posted on Canvas.

The (optional) textbook is:

- Corporate Finance: The Core, (3rd or 4th edition), by Jonathan Berk and Peter DeMarzo (BDM). Readings from this book for each lecture are listed in “Schedule of Sessions and Assignments”. Readings should be done prior to class and will serve as a supplement to class lecture material. The book is not required.

These additional materials are not required, but may be useful to some students:

- The Wall Street Journal and/or The Financial Times are fundamental readings for any business school student. Class discussion will often reference news items.