

FE 711: Finance 1: Free Cash Flows and the Time Value of Money: Schedule

Week	Date (Cohort)	Class Topic	Reading Assignments*	Deliverables
1	24 Oct	Time Value of Money; Law of one price; Discounting, Present and Future Value; rate of return, net present value. We'll discuss the Ginny's Restaurant Case, then go through the mechanics of discounting and compounding (H1).	Chapters 3 and 4, esp. 4.1-4.6 HBS Case no: 201099.	Prepare to discuss Ginny's Q1-4 in class (prepare your best answers but no need to submit anything; we won't cover Q5-6).
2	31 Oct	Mechanics of Discounting and Compounding Continued, Alternatives to NPV (if time)**; Financial decision making & the law of one price (H2);	3.1-3.2; 3.4	Online HW 1
3	7 Nov	Financial decision making & the law of one price (H2); Inflation, Interest rates and Taxes (H3);	5.1-5.4	Online HW 2 Quiz 1: Present and Future Values, NPV
4	14 Nov	Inflation, Interest rates and Taxes (H3); Estimating Free Cash Flows (H4)	8.1-8.4	Online HW 3
5	16 Nov THURSDAY	Estimating Free Cash Flows continued; Multiples Method of Valuation.** (H4, H5), Alternatives to NPV** (if time and not covered previously)		Online HW 4 Quiz 2: Law of One Price and Interest rates.
	21 Nov	NO CLASS – Happy Thanksgiving		
6	28 Nov	Tottenham Hotspur Case Discussion; Course Review	HBS case no. 9-209-059	Prepare answers to case questions posted on assignments tab for class discussion Online HW 5
7	Dec 5	Course/Exam Review		Online HW 6 Practice exam Valuation Project (Ocean Carriers Case)
8	Thurs Dec 7, 8-11am	Final Exam		

*** Students should read the material in the textbook indicated in the syllabus as relevant to each lecture before and/or after each class to consolidate understanding of the material.** Class slides will be posted before each class for pre-class review; solutions will be posted after each class for post class review.

****Indicates optional topic which will be covered only if time permits.**

FE 711: Finance 1: Discounting and Free Cash Flows

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The Instructor will hold office hours once per week, usually Friday 10-11 in 524; students can e-mail the instructor with questions or requests to meet at this or other times. The teaching assistants will also hold office hours before homework is due; and a session at the end of each week to review the week's material. Exact days/times/locations TBD.

Aim of the Course

To provide an understanding of some of the basic principles of financial valuation. At the end of the course, students should be able to value a business, or a project, by estimating cash flows, given a discount rate. In addition, you will have a working knowledge of how to organize and manipulate financial data in excel to allow you to explain and evaluate a business plan or project.

The course can be divided into three main components, which proceed in the following order:

1. Fundamental concepts in Finance Theory:

(i) Present and Future Value

The notion of discounting and the time value of money. Why a dollar today is worth more than a dollar tomorrow. A dollar tomorrow is worth less than one today. This simple idea will take us a long way towards valuing various financial instruments where cash flows are known or can be easily estimated. We can apply this idea to find the value (and hence, market price of) securities such as stocks and bonds.

(ii) Net Present Value

Net present value as a measure of the value-added of an investment. Alternatives to net present value (IRR, payback period) and their problems.

(iii) The Law of One Price

How arbitrage in efficient markets ensures that securities with the same cash flows (with the same risk and maturity) should all have the same price. How short selling works.

2. Personal and Small Business Finance

How interest rates work in practice (i.e., the distinction between advertised APRs and compound interest rates). How mortgage and credit card debt accumulate. How inflation and taxes affect interest rates and the burden of interest payments.

3. The Free Cash Flow Method of Valuation

Firms choose projects and make decisions to make money for their investors. The difference here from the first part of the course is that the cash flows from firm's future business investments are not known and have to be estimated. We will learn how to identify cash flows relevant to the valuation of an investment project - the "free cash flow" (FCF) method - and how to employ the Net Present Value criterion to make investment decisions. We will learn the concept of enterprise value (as being the estimated value of the

business), and how to estimate enterprise value from equity value and vice versa. If time permits, we will also study the multiples method of valuation and compare it with the FCF method.

At the end of this half-course, you will be able to value an investment with known cash flows; and estimate the cash flows from a business investment project or acquisition, using a given discount rate. We will not cover how that discount rate is determined. That will be covered in the next course (FE712). FE713 (an optional half course starting in the second half of the second semester, following FE712) will discuss how to finance corporate investments (e.g. the pros and cons of issuing debt or equity).

COURSE PEDAGOGY

- The course will be a mix of
 - Lectures
 - Case studies
 - Examples
 - Practical problems solved in Excel
 - Discussion of current events

COURSE MATERIALS

- **You are required to purchase MyFinanceLab in order to complete homework and in class quizzes online.** This software costs \$109.99 and includes the e-textbook for this course (see below), as well as many multimedia videos and study aids, and a large number of practice questions. A two-week “free trial” of Myfinancelab is usually available, but you will need to purchase access after that. To purchase myfinancelab, arm yourself with the pdf of the course registration instructions to register for my particular version of the course (posted on blackboard) and go to: <https://www.pearsonmylabandmastering.com/northamerica/myfinancelab/students/get-registered/index.html>
- **Couse textbook:** *Corporate Finance* by Jonathan Berk and Peter DeMarzo, 6th edition (including MyFinanceLab access kit), Pearson. You automatically get access to the e-text of this book when you subscribe to the Myfinancelab platform mentioned above. If you want a loose leaf printout in addition to the e-text, you can order one when you purchase my finance lab for an extra \$39.99. You can also get a secondhand hard copy of any edition from any bookstore, including amazon (the text of all editions is very similar), which may be worthwhile if you want to read the textbook in hard copy, but you will still need to purchase access to the 6th edition of my finance lab, mentioned in the bullet point above, in order to complete texts and homeworks.
- Harvard Business School cases. There are 3 of these and they cost \$4.25 each and are available from the Harvard Business School Publishing website. Please go to the following link to register and purchase the cases for this course: <https://hbsp.harvard.edu/import/1106384>
- Additional materials: Lecture notes and additional content will be available on the course website on blackboard. **PPT slides without solutions will be posted on the course website before class so that you can review materials before class.** Students who are new to the subject and find it difficult are **strongly encouraged** to review the slides before class and try to solve the problems posed there that we will tackle in class on your own before class as a form of review or practice of the material that you have read in the textbook before class. You may like to download or even print out the course materials pertinent to each meeting and bring them with you to class so you

can annotate them. Slides with solutions will be posted after the class and students are equally encouraged to review them after the class to ensure that they have assimilated the material. Any excel sheets which we create in class will also be posted on blackboard after class.

- Course website: All class materials (e.g., excel created in class) will be posted on the course website on blackboard. Regular weekly homeworks will be posted on my finance lab (MFL), the site associated with the textbook mentioned above. Instructions for all other assignments (e.g. class projects, practice exams) will be posted on blackboard and submitted there. Any important announcements will be e-mailed from the website, and such e-mails will be archived there.

PERFORMANCE EVALUATION

Your FE711 grade will be comprised of the following components, with the following weights:

Component	Total Weight
• Online homework assignments (approx. 6)	5%*6 = 30%
• Quizzes (2)	5%*2 = 10%
• Valuation Case (learning team project) (1)	10%
• Class Participation	10%
• Final Exam	40%

Note that the syllabus, and hence the evaluation, of FE711 is designed to be flexible, and is thus subject to change. As far as possible, the speed of the class will be adjusted according to students' needs. As a result, it may be that some of the above components do not occur exactly as described in the bullet points above. If that happens, the other components will be prorated accordingly.

Details concerning Performance Evaluation

- **Online homework assignments:** Homework will be assigned through MyFinanceLab after each class (i.e. once per week). Generally, the purpose of the homework is to give students appropriate incentives to review material as we go along, and to help you see where you need to review. The precise instructions regarding registering and logging in into MyFinanceLab are found in the registration handout available in the "Resources" section of the class website. You will have up to 3 attempts and unlimited time to complete each question in the homework assignments. Homework assignments are to be prepared individually. They are to be submitted by 8am on Tuesdays unless otherwise specified.
- **Quizzes:** Short quizzes may be used to test (1) present and future value, (2) interest rates (personal finance, taxes, inflation and the term structure). To reduce the pressure of the final exam, these topics will be tested in short in-class online quizzes. These quizzes normally contain 4-5 questions of varying difficulty and are 30-60 minutes long. They take place in myfinancelab and hence have the same format as the online homework assignments, except that your first answer will to each question will be taken, and the assignment will be timed (whereas for the homeworks, you get 3 tries for each question and unlimited time). Each quiz has relatively low weight in the grade because the idea behind them is simply to encourage review of material that we have already studied in class and which you will already have completed one or more homework topics. (Note, you may find it useful to know that myfinancelab allows you to complete

unlimited ungraded practice questions on a given topic/chapter aside from any graded homework).

- The topic of free cash flows is not examined using a MFL quiz because as a topic it is too prone to follow-through errors (which MFL doesn't deal with very well). So for that topic instead of a quiz we have the Tottenham Hotspur case (assessed using class participation) and the Ocean Carriers Case (a team project to be submitted and graded).
- **Class participation:** I expect and encourage active participation from all students. "Active participation" does not mean that you need to try to answer every single question posed in class. But it does mean that you regularly volunteer to answer questions. Thoughtful questions and remarks will also be rewarded. "Thoughtful" does not necessarily, or even generally, coincide with "correct". If you have the wrong answer, then it is likely that many others in class have reached the same wrong answer and that we as a class can learn something by discussing why that answer is wrong and how to arrive at the correct solution. So wrong answers are sometimes (often?) more useful to the class' learning than right answers, so it is important to raise your hand even though you are not sure of your solution. The goal of participation is for the class to arrive through discussion together at the right answer. This is a better way to learn than for me to simply talk you through the right answer (as you don't see the pitfalls where you can go wrong that way). When the poll everywhere software is used in class, participation will count towards class participation, but it is important to speak in class as well. I reserve the right to pose questions to individual students during class ("cold calls") as a way to stimulate class participation.
- **Final Exam:** The questions on the final exam will be more difficult than the questions on the quizzes held during the course. The reason for this is that the quizzes are designed as a check for you to make sure that you are understanding things (so the expectation is that you will get most things correct; I may include one or two more difficult questions), whereas the final exam has to induce some sort of distribution to allow me to assign the very highest grades for the course. The quizzes is automatically graded by machine in myfinancelab, which does not deal well with follow-through errors; whereas your final exam will be graded by humans who are able to assign follow-through credit 😊. So the questions in the final exam can be a bit longer and more challenging than those in the quizzes. I will give examples of the sorts of questions that might appear on the final exam throughout the course, particularly as we finish each topic. Practice exams will also be provided. On the final, you should not expect that you will get everything correct; parts of each question will be easy, and other parts will be more difficult. You will have to assimilate everything on the course very thoroughly to get 100% on the final; but you will not need any prior knowledge or anything from outside the course in order to do so. (You be able to add, subtract, divide, and multiply, but you excel can do those things for you. You just need to figure out how to organize the information you are given in the right way so that excel can solve the problem for you.)
- **Open Book Policy for exams and Quizzes:** All exams and quizzes in this course are **open-book**, that is, *you can use whatever material you like during the exam*. What is prohibited is communication with anyone else (except myself or the TAs for clarifying questions) during the exams or quizzes. Your exams, quizzes, and homeworks should all be your own work. For homeworks, you may discuss problems and work with other students, but what you actually submit should be entirely your own work. That means, for example, that you should have created your own spreadsheet to solve the problems, and should never be relying on other peoples' spreadsheets. Part of the mandate of FE 711 is to make sure that all students are "fluent" in excel

use for this purpose, and the only way to attain such fluency is through practice. If you do not create your own spreadsheets to solve problems during the course, you will find that this makes things much more difficult for you in the final exam (and in your future life in making business and personal financial decisions!).

- **The Valuation Project** is a team project to be undertaken in your Mod 2 learning teams. Only one submission should be made per team. The valuation project asks you to estimate the value of a project contemplated by the Ocean Carriers Shipping Company. Precise instructions will be posted on Blackboard during the semester. Your valuation project will be assessed not only according to the correctness of your answers, but also according to the comprehensibility of your spreadsheet (is it laid out in a way that others can readily understand the basis of your spreadsheet?) and the strength of your reasoning in answering the questions that are posed.

DIVERSITY AND INCLUSION STATEMENT

- In developing and delivering this course, I aim to be thoughtful about how identity and culture impact the classroom experience and the course content.
- However, like everyone else, I am human and I make mistakes. Please let me know if I am unconsciously exhibiting a bias that I may not be aware of. I also encourage you to share your personal experiences and perspective related to the course content. If there are topics or conversations that you feel would benefit from incorporation of social context, a differing perspective, or Questrom's Office of Diversity & Inclusion, please inform me so that I can seek out resources and opportunities for us to engage a wider variety of perspectives in our classroom.

ACCOMMODATIONS FOR STUDENTS WITH SPECIAL NEEDS:

- In keeping with University policy, any student with a disability who needs academic accommodations should call the Office of Disability Services at 353-3658, or visit 19 Deerfield Street to arrange a confidential appointment with a Disability Services staff member. See <https://www.bu.edu/disability/>
- Please try to deliver accommodation letters to me in a timely fashion. Please note that accommodations cannot be provided without an official letter of accommodation.

SEXUAL MISCONDUCT/ TITLE IX POLICY

- The Questrom School of Business is committed to fostering a safe learning environment for all members of the community and preventing sexual misconduct.
- All forms of sexual misconduct, including rape, acquaintance rape, sexual assault, domestic and dating violence, stalking, and sexual harassment are violations of Boston University's policies, whether they happen on campus or off campus.
- Title IX of the Education Amendments of 1972 is a federal civil rights law that prohibits sex-based discrimination in federally funded education programs and activities. This law makes it clear that violence and harassment based on sex and gender is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc.

- If you or someone you know has been harassed or assaulted, you can find the appropriate resources at <http://www.bu.edu/safety/sexual-misconduct/>

ACADEMIC INTEGRITY POLICY

- The Questrom School has developed an Academic Conduct Code ([link here](#)). You should make sure that you are in compliance with this code of conduct. In particular, all submitted work – homework, quizzes, exams should be your own work, unless express permission has been given otherwise. Group projects should be the joint work of the whole group – the object is that the whole group learns how to do the project through collaboration. It should not be the case that the project is undertaken by only one or a few members of the group and others don't understand it but nevertheless have their names on it. It is the duty of group members to ensure that all group members understand and could reproduce the analysis their group has undertaken.

COURSE RECORDING POLICY

- All class sessions will be recorded for the benefit of registered students who are unable to attend due to special circumstances, or for students who attended class and who wish to review certain parts of the class following attendance. Recorded sessions are made available to registered students ONLY via their password-protected BU account. Students may not share such sessions with anyone not registered in the course and may not repost them in a public platform. Students have the right to opt-out of being part of the class recording. Please contact your instructor or teaching assistant to discuss options for attending the course in such cases. More information on this topic is available at <https://digital.bu.edu/lfa-classroom-recordings/>.

LAST WORDS

- If you have diligently checked out all the links in this syllabus, try this one: <https://www.youtube.com/watch?v=dQw4w9WgXcQ>

My aim in this course is for you to feel that you learned a lot of useful stuff, and that although you have had to work hard to master the material, overall, you enjoyed and got a lot out of the course. I strongly believe that the fundamentals of finance are accessible and useful to everyone, but, given that we only have a short time together, you will need to work consistently throughout the course in order to manage the workload and get the most out of it. I will do my very best not to leave anyone behind – so please reach out to me or to a TA as soon as you feel you are struggling. Do not leave it until it is too late.