

UNIVERSITY OF PENNSYLVANIA
The Wharton School
FNCE 612
ACCELERATED CORPORATE FINANCE
COURSE SYLLABUS

Professor Alex Edmans

Fall 2013

Office: SHDH 2460

Email: aedmans@wharton.upenn.edu

Web: <http://finance.wharton.upenn.edu/~aedmans> and Canvas

Statistics Pre-Term Class:

- Thursday, August 22. Either 12-2pm or 3-5pm in JMHH F85

Lectures in JMHH G60:

- Tuesdays and Thursdays, 9-10:20am
- Beginning Tuesday, August 27 and ending Thursday, October 3

Office Hours in SHDH 2460:

- Thursdays, 2-3pm

Exams:

- Midterm: Monday, September 16, 6-8pm in JMHH G60, F85, F95, 240
- Final: Wednesday, October 16, 6-8pm in JMHH 245, 250, 255, 260, 265

Course Description

This course is intended for students with prior knowledge of finance or with strong analytical backgrounds. Together with the pre-term preparation course (FNCE 604), it forms the foundation for subsequent courses in corporate finance, corporate valuation, investments, and financial derivatives. Its purpose is to develop a framework for analyzing a firm's investment and financing decisions. The course will start where FNCE 604 ends. More precisely, it will provide an introduction to capital budgeting techniques under uncertainty, asset valuation, the operation and efficiency of capital markets, the optimal capital structure and dividend policy of the firm, and options. In short, it will cover all the topics of a typical semester-long finance introduction class in six weeks.¹

¹Of course, since FNCE 604 has already covered about 30-35% of the material studied in a typical finance introduction class, the pace of FNCE 612 will effectively be about 35-40% faster than that of FNCE 611.

The course assumes that students are familiar with the material covered in FNCE 604. As a result, it is only available to those students who successfully passed the Finance Placement Exam in pre-term, or waived the core by credentials. **This course is not suitable for students new to finance and with limited analytical backgrounds. This course is hard. The pace is fast, and it requires a major investment of time and effort outside class.** This is not a standard academic class which teaches you how to follow algorithms and plug numbers into formulas to solve problems from a textbook. Instead, the goal is to teach you to *think* intelligently and have a deep intuitive understanding of the material so that you understand how finance works in the real world. **Please do not take this course unless you are fully comfortable with an accelerated pace and intense workload. Moreover, taking FNCE 612 and ACCT 612 together will involve an even more intense workload.**

In particular, **the homeworks are typically more difficult than the examples taught in class** (and in the textbook) and you will need to think creatively and use your initiative to solve them. This is similar to real life - each client situation presents new challenges that you will not have seen before. As a consequence, the lectures focus on teaching you rigorous intuition and the fundamental concepts beneath the formulas, so that you can apply your knowledge to any situation you are confronted with. While I will go through a number of worked numerical examples in the lectures, **you will need to supplement these by doing the more complex problems in the bulk pack. These problems are an integral part of the course and it is insufficient just to attend lectures for a full understanding of the material.** I provide solutions to all the questions in the bulk pack (other than the homeworks), to help you learn how to solve complex problems. The problems in the textbook are simpler than those in the problem set and you should start with them if you find the problem set questions too difficult. At the end of each section I have a list of suggested problems from the textbook. In addition, since I will move at a fast pace, it is **strongly recommended that you read up on the lecture notes ahead of time. I frequently cold-call. If you are afraid of being cold-called, please do not take this class.** You should have mastered all the material covered in previous classes, and looked at the sample problems for previous classes before each lecture.

Since the emphasis is on the fundamental concepts underlying modern finance, the approach will be analytical and rigorous, and requires familiarity with accounting, mathematical and statistical tools. This “theoretical” approach is necessary to provide you with a strong foundation that you can then apply to the (more practical) elective classes at Wharton. **If you do not want a theoretical course, please do not take this class.** However, I try to add as much real-world application as possible, within the constraints of not sacrificing rigor. In particular, a special feature of this course is that in every class I include a 5-10 minute “break” where I talk about a real-world application of finance. Examples include trading strategies implemented by hedge funds (often inspired by new academic research), a client situation I encountered when at Morgan Stanley, or a recent case study or corporate scandal. The material in these breaks is supplemented by press articles or digestible academic papers that I post on Canvas. None of this material is examined, but I include this to show how you can use finance in your future careers. A sample list of real-life topics is included at the end of this document.

To reiterate, the workload of this course is high and students are expected to do a lot of practice problems and reading in their own time. This is necessary to cover a semester's worth of material in six weeks. To keep things as manageable as possible, I have made the problem sets and cases optional (and solvable in teams), and the exams open-book.

Prerequisites

The prerequisite for this class is a satisfactory performance (as judged by the instructor) in the *Finance Placement Exam*, which is offered at the end of the pre-term. The typical candidates for passing this Finance Placement Exam are students with prior course or practical knowledge of financial analysis, and students with a strong analytical background (e.g., students with prior degrees in engineering, physics, mathematics, or statistics). On the first day of class, students are expected to be familiar with the material covered in the pre-term course (FNCE 604). No time will be spent reviewing that material.

The course makes use of mathematical and statistical manipulations at the level taught in the pre-term courses (STAT 613). The first two sections (Sections I.4.1 and I.4.2) of the bulk pack are reviews of statistical material that will be extensively used in the course. Students are expected to have mastered these sections prior to the course's first lecture. To facilitate this process, a statistics review session will be held on Thursday, August 22, prior to the course's first lecture. You may attend either at 12pm-2pm or 3-5pm in JMHH F85. It is *strongly recommended* that you attend one of these lectures.

Course Material

Required for the course is a bulk pack that you may obtain either from Study.Net or Canvas. It contains the lecture notes that will be presented in class, problem sets and their solutions, sample exams and their solutions, as well as some other useful material. If necessary, additional handouts will be made available on Canvas.

The bulk pack contains more material than that which I intend to teach in class. It includes supplementary material that will not be examined such as institutional details and proofs of equations, which you can read in your own time if it is of interest. It also contains additional exercises and examples that complement those that I will go through in class. Therefore, do not be alarmed if I skip some pages in class.

In addition, the following textbook and special study guide are highly recommended. They can be obtained together at a discounted price at the Penn Bookstore (36th and Walnut):

Brealey, Richard A., Stewart C. Myers and Franklin Allen, *Principles of Corporate Finance*, 11th edition (McGraw-Hill, New York, 2013). (Referred to as BMA below).

Student Supplement to accompany Brealey, Myers, and Allen's Principles of Corporate Finance, 11th edition (McGraw-Hill, New York, 2013).

The latter contains both the study guide made for the course plus the solutions manual for the end-of-chapter questions in BMA. The reason I designate the books as “highly recommended” rather than “required” is that students in the past have been able to do well in the course just by reading the lecture notes and doing the problem sets in the bulk pack, since they are comprehensive. The problems in the bulk pack are more complicated than those in BMA and a fairer indication of the level of the problems in the exam. Since the book is recommended rather than required, you may use an earlier edition, but please note that the chapter designations and suggested questions will be different than the ones in the lecture notes (which apply to the 11th edition). The book is particularly useful for (a) simpler problems, to ease you into the more complex problems in the bulk pack, and (b) as an additional source for material that you may have found challenging when taught in class – since the lecture notes are slides, they are necessarily concise, and the book provides much more detailed explanations. The book is also useful for many finance electives at Wharton.

Although I will try to explicitly define every finance term used in the course, it is possible that some students will be unfamiliar with some of the terminology used in our discussions. To bridge these gaps (or, at the very least, to help in all your other finance courses at Wharton), I recommend the following “finance dictionary”:

Downes, John, and Jordan Elliot Goodman, *Dictionary of Finance and Investment Terms*, 7th edition (Barron’s Educational Series, 2006).

Grading: Exams, Homeworks, and Case Report

The course grade will be based on one midterm exam, one final exam, four *optional* homeworks, two *optional* case reports, and class participation. Each homework will count for 5% of your final grade, each case report will count for 10% of your final grade, and class participation will count for 10% of your final grade. Each homework, case report, and class participation will count only if they improve your final grade. So, should you choose to hand in all four homeworks and both case reports, and participate actively in class, you can accumulate up to 50% of your final grade outside of exams. The rest of your final grade will consist of your midterm exam and final exam weighted equally. However, if your score in the final exam is better than your score in the midterm exam, your final exam will be given twice the weight of your midterm exam. This is to reward students who improve over the course, and to allow those who underperform in the midterm to still do well overall. I will standardize the medians of the midterm and final so that they are equalized. For example, if the midterm has a median of 90 and the final has a median of 80, I will subtract 5 from all midterm scores and add 5 to all final scores so that both exams have a median of 85. This is to ensure that sufficient numbers of students have a better score in the final than the midterm to benefit from the weighting system, even if the final is difficult. The grades of the problem sets, cases, and class participation will not be adjusted.

This is the second year that I am grading class participation. In the past, I did not grade participation as I trust students to contribute because they are intrinsically interested in the material, rather than to get an extrinsic reward. However, this meant that some students,

who were contributing significantly to class discussion and enhancing their classmates' learning by doing so, were not credited for this. Since I recognize that some students may prefer to sit and listen, I will only count class participation if it improves your overall grade. If so, it will count for 10%. Both for the grade and for the recommendation letters, **I grade according to the quality, not quantity, of comments.** Irrelevant comments or questions will significantly reduce your class participation grade. Last year, several students received 10 who did not speak much, but gave excellent responses when cold-called, answered general questions (to the class as a whole, not to a specific person) intelligently, and asked a couple of insightful questions. Several non-native speakers received 10; non-native speakers are not disadvantaged.

I will do my best to make it clear during the lecture whether a given comment is helpful or detrimental to the class (and thus to your grade). However, I will typically do so only with the tone of my response, rather than explicitly stating that a certain comment is low-quality, to avoid embarrassing students. If you would like more explicit feedback on the quality of your participation, please contact me outside class.

The exam schedule will be as follows:

- Midterm exam: Monday, September 16, 6-8pm, in JMHH G60, F85, F95, 240
- Final exam: Wednesday, October 16, 6-8pm, in JMHH 245, 250, 255, 260, 265

The midterm will cover all of the material up to and including section II.1 (Efficient Capital Markets). The material for the final exam will *not* be cumulative, i.e., the final exam will only cover the second half of the course, from Section II.2 (Dividend Policy) onwards. Also, the material covered in FNCE 604 will *not* be examined again in FNCE 612. Of course, we will still need to use some of the tools developed in that course (e.g., annuity formulas, NPV rule, etc.). Both exams will be *open-book*, i.e., you can bring your lecture notes, your book(s), and any other material that you find useful.

The homeworks and case reports can be prepared in teams of up to *four* students.² A team can consist of students from different sections of FNCE 612, and you are free to change groups between each assignment. For the homeworks to be graded, **one hard copy per group** has to be submitted **in class**³ on the due date, which you can find, along with the list of problems contained in those homeworks, in the following table:

²Four is a non-negotiable hard cap. The only way the upper limit can be relaxed is if all the members of the group are from the same learning team, to avoid splitting up the learning team which would damage learning team dynamics.

³If you are in an early section, you may hand in your assignment at the beginning or end of a later section the same day.

	Due date	Problems
Homework #1	Thursday, September 5	PS #5: 3, 4, 10 PS #6: 1, 7, 10
Homework #2	Thursday, September 12	PS #7: 1, 3, 7 PS #8: 2, 4
Homework #3	Thursday, September 26	PS #9: 1, 2, 4 PS #10: 2, 4, 6
Homework #4	Monday, October 7 (drop box at fin dept reception)	PS #11: 1, 2, 4 PS #12: 2, 3, 4, 5, 8

No extensions are available to the due dates and late assignments will be given a zero score (and thus not count towards your final grade). The two case reports will be about the same case, but will concentrate on different aspects of the problem. The first report is due **in class** on Tuesday, September 10 in hard copy. To be graded, the second report should be handed in **at the beginning of class** on Thursday, October 3. At that point, two or three of the teams will be selected randomly to make a 10 minute presentation of their findings. As such, students should prepare slides for that purpose. More details about the case and presentation will be given in class.

Make-up Exams

I'm sorry to say that individual exceptions to the timing of these examinations cannot be made to accommodate travel schedules, etc., according to Wharton policy. If **extraordinary circumstances** prevent a student from attending an exam, it is his/her responsibility to notify the instructor *before* the exam. Interviews and job-related absences are not considered to be extraordinary circumstances, as per Wharton policy. In the case of illness, the instructor must be notified *before* the exam and a signed doctor's note must be provided as soon as possible.⁴

For the midterm exam, there will be no make-up. **At the discretion of the instructor**, the student may be granted authorization to be absent from the examination. Students who, for some reason, cannot attend the final exam will either be allowed to take the same exam early (upon signing an honor agreement that they will not disclose its contents), or a different exam later, depending on the circumstances. Again, this will only be considered for **extraordinary circumstances**, as judged by the instructor. Note that the make-up exam will be harder to take into account the fact that students will get more preparation time, and the TAs are not required (nor paid) to offer any help to students after the regular final exam. In short, students should consider asking to take the make-up final only in extreme situations.

Regrading Policy

⁴Only a signed doctor's note is acceptable. A document stating that the student went to hospital, or a prescription, are not substitutes.

Regrade requests for any assignment (problem set, case, exam) must be made within one week after the assignment is distributed back to students. All such requests must be made **in writing**, and hard copies of the exam and the request must be delivered to the TAs' mailfolders. **The TA decision is final and may not be appealed.** While you are welcome to go to TA office hours to find out why you lost marks for a certain question, you may not verbally argue for a regrade during office hours – if you are dissatisfied with the explanation in office hours and would like a regrade, you must put this in writing. (In particular, this is to ensure fairness, since the regrade request will go to the TA who graded that question across all exams.) In making your requests, keep in mind that the whole exam is potentially subject to regrading, and points may be deducted if you are later found to have been over-marked for a question. Assuming grading errors are symmetric, the expected gain in points from a regrade is zero. *In particular, just missing out on the grade above is not grounds for a regrade!* The grade boundaries have to be drawn somewhere, and inevitably some students will just make a certain grade, while others just miss out (just as someone has to come 4th in the Olympics).

Each student is allowed **one free regrade request** in this course. If your appeal is successful, you are allowed to appeal again later in the course, but if it is unsuccessful, you are not allowed to appeal again. This limit is to help, rather than hinder students. By deterring frivolous appeals, this frees up the TAs' time to consider every regrade request seriously. This policy ensures that students who genuinely suffered from an error will get their error corrected, and not be constrained by the limit as there is no limit on successful appeals. By analogy, the high fee to apply to Wharton's MBA program deters applications that have very little chance of being successful, meaning that every serious application is considered diligently.

Semester Deadlines

Students will be allowed to drop the course at any time on or before October 7, which is after the final class and before the final exam. It is also before the midterm exam in FNCE 611, allowing students to transfer if necessary. Since the problem sets and cases are different between the two classes, the grades from the FNCE 612 assignments will not be transferred over. Instead, for the missed FNCE 611 assignments, the transferring students will have more weight put on the exams.

Class Etiquette and Code of Conduct

Particularly for an accelerated class, it is essential to (a) attend class to absorb the material, and (b) ask questions if anything in the lecture is unclear. **I am always happy to re-explain a concept if necessary; the pace of class is the students' responsibility.** Students should attend the section of the class for which they are registered. In the case of an unavoidable conflict, students can attend another of my sections without notifying me. If it is impossible to make any section on a given day, you may miss class without notifying me, and are trusted to catch up on the material in your own time. In addition, students not registered for this course may audit lectures without asking my permission first (if there is

a shortage of seats, please give priority to registered students). Please display your name cards in class at all times so that I can get to know you.

While I am flexible regarding the above, I expect classroom conduct to be on a high level. Students should arrive on time for class and remain until the class is completed. **During class it is not acceptable to use smart phones or laptops, leave temporarily to get coffee or make a call, or do other work. I will call students out for phone or laptop usage. It is acceptable to use an iPad or any other tablet PC (that lies flat on the desk) for the sole purpose of taking notes; other uses are prohibited.**

Although it should go without saying, I make clear that I expect you to adhere to the school's code of academic conduct (<http://www.vpul.upenn.edu/osl/acadint.html>). In particular, the use of past problem set solutions or past exams (except when distributed by the instructor) is expressly forbidden. Any violation of this code, such as cheating in any form, will be treated with severity. Cheaters will be hauled before the Ethics Committee and may be given an automatic fail. I also ask my TAs to photocopy a significant portion of the exams and so will likely catch any regrade-related cheating as a result.

Teaching Assistants and Review Sessions

Five 2nd-year MBA students will be assisting me in this course. Their principal duties will be to hold office hours and review sessions, answer questions (by email and on Canvas), and grade problem sets, cases and exams. Their names and contact details are:

- Jenn Doran (jdor)
- Berj Garabedian (berjg)
- Nicole Hong (honghy)
- Eugene Pyatigorsky (eugenepy)
- Violeta Rabanal (vrabanal)

Office Hours are held in the TA cubicles in SHDH 2305. They take place at the following times:

- Monday, 3-4:30pm, Desk C
- Tuesday: 3-4:30pm, Desk C
- Wednesday: 3-4:30pm, Desk C

The TAs will also hold a statistics review session before the first class, and four review sessions:

- Statistics review session: Thursday, August 22, 12-2pm or 3-5pm in JMHH F85
- Review session: Friday, September 6, 10am-12pm in JMHH F95

- Midterm review session: Friday, September 13, 10am-12pm in SHDH 350
- Review session: Friday, September 27, 10am-12pm in SHDH 350
- Final review session: Friday, October 4, 10am-12pm in JMHH F95

If there is a specific topic that you would like the TA to cover in the review session, please email him/her beforehand.

Dedicated, knowledgeable and helpful TAs can have a tremendous impact on a course. Since there is no opportunity to evaluate TAs with the official course evaluation form, I give students the opportunity to provide ratings and feedback on my TAs through an anonymous Canvas poll at the end of the course. In addition to providing motivation to the TAs, this allows students to thank or provide constructive feedback on them. For especially good TAs, positive comments and ratings can be helpful for their future careers.

Canvas

The course site at Canvas contains material essential for this class as well as most updated information and announcements for the course. Please check the course site regularly. **In particular, it is most efficient to ask questions (either on course material or on administrative items) on the Discussions section of Canvas rather than emailing the TAs.** This means that all students can read our answers, saving the same question being asked multiple times. It also likely leads to a faster response since any of us can respond to the question. Only questions regarding the assignments should be emailed to the TAs (since posting it on Canvas might reveal part of your answer.)

Calculators and Computers

You will definitely need a calculator for the course (and the two exams). Any calculator that has a x^y button will do. In fact, when constructing the exam, I will make sure that the people who do not have a fancy calculator are not at a disadvantage. If you do not have a calculator yet, consider buying a HP-17BII+, as it will probably be useful for other Wharton courses. Older equivalent models such as the HP-17BII or HP-19BII are acceptable. Other calculators such as the HP-10BII, HP-12C, TI-BAII or equivalents will put you at a disadvantage in exams for other Wharton classes. They do not allow you to enter formulas and the HP-12C is also slow. Neither laptop computers nor cellphone calculators will be allowed for the exams.

Student Feedback

I greatly appreciate student feedback during the course. Please feel free to email comments and suggestions to me. If you prefer your comments to be anonymous, please use the form at <http://finance.wharton.upenn.edu/~aedmans/teaching.html>, although an email is preferred as I can then respond to your comments.

Course Outline

The material for this course essentially corresponds to chapters 5, 8-10 and 14-22 in the BMA textbook. Below is the sequence of topics that will be covered in class, along with the relevant chapters/sections in BMA. Note that the material covered in each lecture may vary from what is indicated in this schedule, depending on the speed at which we go through each topic. In italics are the “real-life” topics I intend to cover in class; these are particularly vulnerable to change (in part, depending on current events).

I. Investment Decisions (Under Uncertainty)

I.4 The Valuation of Risky Cash Flows

- Thursday, August 22, 10am-12pm or 3-5pm in JMHH F85
 - I.4.1 Statistics Reminder
 - I.4.2 Statistics and Stock Portfolios (Chapter 7)
- Tuesday, August 27
 - I.4.3 The Capital Asset Pricing Model (Chapter 8)
 - *The Equity Premium Puzzle*
- Thursday, August 29
 - I.4.3 The Capital Asset Pricing Model cont’d (Chapter 8)
 - *CAPM Client Situations*
- Tuesday, September 3
 - I.4.4 The Valuation of Stocks (Chapter 4)
 - *Stakeholder Theory*
- Thursday, September 5
 - I.5 Capital Budgeting Under Uncertainty (Chapter 9)
 - HW #1 due
 - *A Potential Solution to the Mortgage Crisis*
- Friday, September 6, 10am-12pm
 - TA review session

II. Financing Decisions

- Tuesday, September 10
 - II.1 Efficient Capital Markets: Theory and Evidence (Chapter 13)

- Case #1 due
- *The Limits of Arbitrage*
- Please read “An Overview of Long-Term Financing” in Additional Materials. This pertains to Chapters 14 and 15
- Thursday, September 12
 - II.2 Dividend Policy (Chapter 16)
 - HW #2 due
 - *How Managers Can Exploit Inefficient Markets*
- Friday, September 13, 10am-12pm
 - TA mid-term review session
- Monday, September 16, 6-8pm
 - Midterm Exam
- Tuesday, September 17
 - II.3 Debt Policy (Chapter 17)
 - *Debt Compensation*
- Thursday, September 19
 - II.4 Debt Policy cont’d (Chapter 18)
 - *The Perils of Overconfidence*

III. The Interaction of Investment and Financing Decisions

- Tuesday, September 24
 - III (Chapter 19)
 - *Carry Strategies and the Forward Premium Puzzle*
- **IV. Options**
- Thursday, September 26
 - IV.1.1 Understanding Options (Chapter 20)
 - HW #3 due
 - *The Option Backdating Scandal*
 - *Portfolio Insurance and the 1987 Market Crash*

- Friday, September 27
 - TA review session
- Tuesday, October 1
 - IV.1.2 Option Pricing (Chapter 21)
 - *Forensic Finance and Other Corporate Scandals*
- Thursday, October 3
 - Case Presentations
 - Wrap-up
 - Case #2 due
 - *Choosing A Career*
- Friday, October 4
 - TA final review session
- Monday, October 7
 - HW #4 due. Please post in drop-box at the finance department reception by 4:30pm
- Wednesday, October 16, 6-8pm
 - Final Exam

Disclaimer

This document represents my current plans for the course at the time of writing, but is subject to change. Any changes will be communicated promptly and clearly to the students.