
Syllabus
Corporate Finance

Fall 2006
Economics 172

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- Section 01: TR 10:30-11:50 (I hour).
- Section 02: TR 13:00-14:20 (J Hour).
- Final exam. Section 01 is formally scheduled for exam group 09 (12/19/2006, 9am). We will not follow this. Instead, even section 01 students should go to exam group 10 (12/15/2006, 9am). We will use exam group 09 (12/19) only for students that have a good reason to miss the first exam and from both sections 01 or 02. *You must contact the TA at least 1 week before to arrange this.*
- *Teaching Assistants:* [Peter Iliev](#), and [Jonathan Bolz](#), [John Harroff](#), [Jacob Kling](#), [Kyle Moore](#), and [Ran Xiao](#).

Preliminary assigned TA Hours: M 12:00-12:50, 19:00-19:50. F 12-12:50, 15:00-15:50. Actual TBA.

Class Web Site: <http://welch.econ.brown.edu/econ172/>

First Class	T Sep 6
Thanksgiving	Nov 23-27
Last Class	Dec 6
Finals	Exam Code 10, Friday Dec 15, 9am (all students) Exam Code 9, Friday Dec 19, 9am (makeup exam)

Read this Syllabus!

Subject Matter Economics 172 teaches the foundations of finance, both corporate finance. The covered segments are:

Basics Rates of Return.

Valuation How should anyone (a manager) decide whether to take or buy a project? How does financial valuation differ from accounting valuation? Do taxes matter?

Investments An abbreviated version to cover what we need in corporate finance: How should an investor choose an investment portfolio? Do taxes matter? What kind of opportunities does the market like?

Corporate Finance How can a manager finance projects? What is a good capital structure/issuing policy? Why are markets so skeptical of management? Do taxes matter?

Basics and Investments have some overlap with material covered in Econ 171.

Objectives Good knowledge of these subjects is important for anyone considering a career in economics, academic economics or finance, consulting, investment banking, trading, and corporate management. The subject matter may not be to the taste of every student, for it is by nature technical—though it is not highly mathematical. The course is similar to an introductory finance course taught in a B-school.

Economics 172 is as much about subject matter, as it is about teaching “the language of management.” Knowledge of this material is the common ground upon which most managerial decisions center. Both Economics 171 (Investments) and Economics 172 (Corporate Finance) are truly the prerequisites to all other finance and strategy classes.

Although the subject is by nature quantitative, I place as much emphasis on common sense, on the ability to know how to approach problems, and on the way of thinking, as I place on formulas and equations. If something appears not to make sense—here, in other classes, or in the real world—*ask!* A friendly or even funny inquiry or challenge, in a productive spirit, is *always* welcome.

Prerequisites [1] A thorough and comfortable ability to handle algebra and arithmetic. There is *no* higher math in this course, but there are a lot of formulas and equations. Math aptitude helps; math knowledge does not. [2] Basic Excel or advanced calculator knowledge. Email and web use. [3] The ability to pick up an accounting and a statistical intro textbook, and read up what is necessary.

Workload Warning I am a believer in “learning by doing,” so do not assume this class is easy or works on cruise-control. The suggested out-of-course workload is targeted for an *average* of 4 hours per week, sometimes more, sometimes less.

Background Knowledge This class will necessarily be easy for some students and difficult for other students. If you find that the class progress is perfect for you in terms of speed, you will be in the minority. If you find the material very difficult, you must take the initiative to keep up with the material. The TAs and I are providing many sources of help, but you will likely fail if you wait until the week before the midterm. If you find the material very easy, please “throttle” your participation during class sessions. Please do not show off that you find the material too easy. I want to engage everyone—and especially students that struggle with the material!

Class Attendance If you have ever been a manager, you already know that attitude is everything. Bring a mature, professional attitude to class. Attendance on-time is proper business etiquette and a minimal requirement for classroom participation. Even though everyone can be late once or twice for an emergency, being regularly late is unprofessional. Because participation is a part of the grading system of this course, frequent late appearance is not to your advantage.

If you are more than 10 minutes late, please do not bother to come. Coming in late interrupts the class. If you already know the material, you do not need to attend class, at all. However, all students are expected to attend the presentations.

Name Cards Please always set up your name card. Having a name sign is useful not only to me, but also to other students who do not know you personally.

Computer Use You are *not* permitted to use a computer or other internet connected device during class. Print the classnotes and bring them to class. Pencil your own notes on them. If you want to make computer readable notes, transcribe your pencilled notes afterwards. This improves the learning and the overall classroom atmosphere—even though answering your email will have to wait until after class. Please abide by this policy without me having to remind you.

Electronic Attendance Each student is required to check the class web site (<http://welch.econ.brown.edu/econ172/>) at least once every day. Important news will be flagged at the top. Students are responsible to have read posted notes. They may even contain new assignments, and it is not an excuse if you have not read it there. Similarly, “my computer died” is not an excuse—backup is your friend.

Office Hours

Instructor: My standard office hours are Thursdays, 14:30-16:00. In addition, whenever possible, I will try to remain present after class to immediately field any student questions. In addition, every student can make a specific appointment to see me, which I will usually work within 48 hours. I am here to help you. However, please understand I cannot field short questions at random intervals throughout the day. Each question is not a big deal, but constant interruptions by 150 students make other work impossible to complete.

TAs: Monday 12:00-12:50, Monday 19:00-19:50, Friday 15:15-50, and by appointment. The TAs will also try to answer emails. Please note: Do not expect the TAs to know *everything*. They are there to try to help you, but they are not me—and I do not know everything about finance, either.

Necessary Class Preparation

- Read the relevant book chapter *before* class. You will not understand everything, but you should understand a good part of it. Having preread the material should help you to follow the discussion in class—and enjoy the cold-calling more.
- Print and look over the classnotes ahead of time.
- Attend class. Bring an ordinary calculator to class. Bring the classnotes for the previous, the current, and the next session.
- Read the relevant classnotes and book chapter again *after* class, and in more detail.
- Do the assignments and homeworks.

If you stick religiously to these instructions, you will most likely do very well in the course—with an A or at least a B.

Responsibility It is entirely your responsibility to learn. I can only aid you in *your* endeavor. Thus, you must try your best to stay on top of the current material, and take advantage of all resources offered to you. If you find yourself seriously behind, consider hiring a tutor—the earlier the better. Beginning one week before midterms may be too late. If you cannot afford hiring a tutor, talk to me and let me know.

Permitted Exam Paraphernalia The midterm and final are closed book and closed notes. Time pressure will make it difficult for you to look up too many answers. You may bring one single **3” by 5”** index card on which you may write anything you wish, front and back. You may bring a calculator, but not a computer.

Honor Code Brown has an honor code, which includes prohibition of cheating and plagiarism. Please report any violations to me.

You must agree not to cheat on the midterm and final; and to inform me if you see other students cheating. Seating space may be at a premium at Brown, and it is tempting to glance at your neighbor's solutions. Do not do it: the penalties far outweigh the benefit. I will try to press for the maximum possible penalty—and trust me, we have caught cheaters in the past.

Problems If you have problems with me or the TAs, our strong preference is that you please come to see us first—either the person who you have problems with, or one of the other two members of our teaching team. (You can ask to keep your identity confidential, and we will honor this.) We want to make this class a great experience for everyone involved, and we are open to learning from you how to do it better. (In particular, I know that I occasionally go over the top with my brand of cynical and politically incorrect sense of humor, even though I wish I did not. If you are extremely sensitive to this, you may be better off taking the class from another instructor.)

Readings

Class Notes The class notes will be available on the class website <http://welch.econ.brown.edu/econ172/>. Although the class notes are posted, they may be changed as time goes by. Please print slides no earlier than 1 week before they are used in class.¹ The classnotes are the definitive source of required knowledge. They are not spaced by class, but spaced by topic. We should be able to cover roughly 10–25 pages of notes per class.

The Book There are two books that you can purchase that will help you. (The books are not the definitive source—the class notes are!)

1. I prefer and therefore primarily recommend my own textbook, *A First Course in Corporate Finance*. Although the book is not yet finished, I believe it is your best choice. My classnotes are based on the book and vice-versa.

Although the book can be downloaded from <http://welch.econ.brown.edu/econ172/>, you are advised to purchase a nicely bound copy from the TA in Econ 2xx for \$40 (personal checks only; no cash please). This \$40 is basically the printing cost. I will only have 100 printed copies, so get it while you can. When they are sold out, you will have to print a loose-leaf collection.

The book also contains the homeworks.

¹Otherwise, you may have to look at a slightly different set of notes from what will be used in class). Note that, unlike for a book or article, there is no copyright charge, so multiple prints are still fairly cheap.

Warning: If you have to print a copy from the web, then please print it after the first class, because I will make page and chapter references to the printed version in the bookstore. The version on the web will be constantly changing, may be out-of-sync with what other students and I are referring to, and may not be available if the server goes down. The web copy is useful for emergencies and for text searching, though, even if you have the printed copy.

I used to give a bounty of \$1 for each error in the book that was brought to my attention, but this is too painful to administer. Therefore, I now keep a list of who emails me what errors first, and will use this as a bonus in my consideration of my 15% discretionary grade component.

2. I can also recommend Brealey-Myers' *Fundamental of Corporate Finance*; or Ross-Westerfield-Jaffe *Corporate Finance*; or the higher-level Grinblatt and Titman *Financial Markets and Corporate Strategy*. The GT text is more complementary to my textbook than the other two.

These three are the standard textbooks on the subject of corporate finance, and with the first two being in >7th edition each, they are much less likely to be buggy than my own book. Moreover, the subject matter will easily map from our classes to these textbooks, and their perspectives of how to explain material is quite different from my own. They also have nice student study guides and self-test books. Both can be purchased from any Internet vendor. The edition really matters little. All of these books are \$100+.

In fact, you may find it helpful to have both my book and a traditional textbook. If you do purchase one of these, I would love to hear from you at the end what you liked/disliked about each approach.

Other Readings

- You may also find it useful to purchase a book on valuation, such as Copeland, Koller, Murrin's *Valuation* (McKinsey Press), or Bradford Cornell's *Corporate Valuation* (Irwin). We will put our personal copy into the library reserve for the duration of this course.
- Vocabulary: For a primer on financial vocabulary, try Kenneth M. Morris, Virginia B. Morris, Alan M. Siegel (1999), *The Wall Street Journal Guide to Understanding Money and Investing*, ISBN 0684869020.
- Professional Readings: Everyone in the class should subscribe to or at least read regularly *The Wall Street Journal*. You absolutely cannot walk into an interviewing situation without knowledge of (and/or an opinion about) current events. Similarly, you should not walk into a financial services or consulting interviewing situation if you are not tech-savvy. For example, what are the best financial websites and why?
- Professional Speaking and Writing is very important. Hook up with Barbara Tannenbaum, take a rhetoric course, take an acting course, etc.

Grading Grading is *relative* to other students. The class will obey the typical Economics grade curve—about 45% A's, 40% B's, 10% C's, and 5% F's. (As far as your transcript is concerned, you should neither be punished nor rewarded for taking this course. I am not here to fight or condone grade inflation or deflation.) We will give it our best efforts to be appropriate and fair, but perfection in grading is intrinsically impossible. Homeworks, midterm, and final are all the same across all sections.

Homeworks (5%) Homeworks are assigned in class at the conclusion of each topic (i.e., on a schedule dictated by in-class progress, not by a firm calendar). The homework problems appear at the end of each chapter in the book. They are due one week after the chapter in the book is finished. Of course, you can work ahead on homeworks if you so wish.

We do not count the two worst homeworks, so if you miss turning in two homeworks on-time, you are ok. We do not accept late homeworks after the due date is over—if the homework is in my mailbox when the economics department building opens on the following day, you still get lucky. (Note: it is locked overnight!) 5 minutes later, and you are out of luck.

Homeworks should be done individually, although group discussion prior to (and at least 1 hour separate from) the writeup is encouraged. The goal is for you to learn, not to grade. In fact, we only record a “reasonable attempt” grade, such as ‘check’, ‘check minus’ or ‘check plus’. *You do not need to answer every single question, although doing so will enhance your ability to understand the material.* Unless you have practically everything perfect or everything wrong, you will receive a check, and not a check-plus or a check-minus. All homeworks together will account for only 5% of the grade. Use homeworks to learn, not to cheat. When handing in homeworks, please keep a copy for yourself. Homeworks are also graded on readability and comprehensibility. Brevity rules.

The most important aspect of the homeworks is that they are for exam preparation. If you perform well on the midterm and final, we will even be willing to count homeworks as 0% in your grade. Again, the point is for the homeworks to build a working knowledge of the subject, not to drill you.

There will be more homework early in the course. In particular, capital structure theory is more conceptual and thus has fewer homeworks. Instead, you are expected to spend the time producing a pro forma with your team in the last third of the course.

Team Project (15%) The team project is an analyst report (with a pro forma valuation) of a company, TBA.

For the team project, each team must consist of 3–5 students. (Not 2 and not 6!) Choose your group carefully to avoid “free-riders.” Each team writeup should be 4–6 pages of text, and no more than 15 pages (incl. figures and tables) in total. Class reports should also be submitted in .pdf format and *will be posted on the class website*. The team project is also graded on readability and comprehensibility: if your answer is not immediately obvious, it is your problem. You must follow proper citation rules to avoid plagiarism.

Midterm (30%) The text book contains a past midterm as a sample. The homeworks are basically the same as sample exam questions. If you have no problems answering similar questions *under time pressure*, you will also have no problem in the midterm. The flavor will be similar to the homeworks, and the midterm is intended to be easier than the homeworks—after all, you have less time.

If you are not present for the midterm (for any reason), the midterm will count 0%, and the grading weight will shift proportionally to the remaining grade components. However, if you appear in the room, you must take the midterm.

Final (35%) The text book contains a past final as a sample. The final is cumulative, and most likely similar to the midterm in format. If you cannot make the scheduled final on 12/15 (with prior justification sent to the TA team), then you can attend the final on 12/19. If you miss both final exams, you have the choice between taking an oral exam with me that I will administer (my advice: avoid this!) and taking the exam when I give the course again (during the next academic year).

Additional Considerations (15%) This is purely at my discretion. For most students, it equates to classroom participation and attitude. *Many regrading requests can also lower this score. This is necessary for fairness given that we do look at relative performance.*

Please note that I much prefer to have lively and funny students (yes, I can take humor as well [or as poorly] as I dish it out) than wet sacks in the audience. Be alive!

Some more considerations: First, in assigning final grades, I will use some discretion also to upweight performance that is much better and downweight a single “bad day screwup” performance. This may work not only for, but also against you: if you get 80% and 60% on midterm and final, I will increase your score relative to a 70% and 70% performance. Second, realize that there is a “regression to the mean” effect. If you are -0.7 standard deviations relative to the mean (about a B in each) in all components, your total score would likely be -1 standard deviations or less relative to the typical total score mean (and thus turn your grade into a C). (Regression to the mean here means that the other -0.7 scorers from the midterm will tend to do better than -0.7 on the final.)

If you are one standard deviation above the mean in the midterm, and you are taking this course pass-fail, then you will not have to take the final.

Regrading Policy The T.A.s will make mistakes on all exams, some in the student’s favor, some against. Because grading is relative to other students, we do not want to systematically reward nitpicking. However, we also do not wish to make a systematic mistake in particularly hard cases. So, our regrading policy is as follows: A student requesting a regrade can choose between one of two options:

1. A regrade only of specific questions in dispute. However, this “costs” an immediate penalty of one question. Thus, a student with two incorrectly graded questions in favor and two against should choose this option.
2. A regrade of the entire exam, with a clear directive for the T.A.s to reexamine every answer. Thus, a student with one incorrectly graded question in favor and none against should choose this option. *It is possible for the overall exam score to decline when this option is chosen.*

In addition, be aware that we are using my 15% re-weighting option partially to penalize multiple regrading requests. (We do not when it is as simple as our missing questions altogether.) This may be unfair to some individuals *ex-post*, but discouraging regrading *ex-ante* improves fairness for everyone (because grading is on a curve)! We do not want to penalize students who do not want to ask for constant regrades.

We do make random copies of exams. We have caught at least one student in the past who thought it was a good idea to clarify his answers in the exam itself after the fact. His answers were indeed greatly improved. His grade was not. I insisted on a formal note thereto in the transcript.

More Incentives I will invite two to four students from the set of past students that received a distinction in my course into the TA team for the following year.

When it comes to recruiting, I respect student privacy, so I will not divulge student performance without permission by the student. However, I do get occasionally contacted by employers to recommend good students, and I will usually recommend the top decile or top quintile of my students. If you would rather not be recommended or if you feel that this violates your privacy, please let me know beforehand.

Upon student request, I will write recommendation letters, but these will mention your approximate rank in the course. If I were you, I would only ask if I was in the top quarter (or better top 10%) of the students. I am honest in my reference letters, and you may be better off with another instructors who can spill hyperbole more easily.

Rough Course Outline

This course has to strike a balance between students extraordinarily well prepared for this class and students extraordinarily poorly prepared for this class. To strike the appropriate balance, the timing in the syllabus below is only indicative: It is more important that 90% of the students learn the material in the syllabus well, than it is to rigidly stick to an exact schedule. You can count on a class to continue onto the next topic early, if a subject is completed early. So, always bring the next session's slides.

Lct	Chpt	Subject	Rough Time
1		introduction and some vocabulary	70 min
2	02	time value of money I	80 min
3	03	perpetuities, annuities	80 min
4	04	yield curve, YTM, duration*	80 min
5	05	uncertainty, bonds and levered stocks	80 min
6	06	market imperfections (frictions)	80+ min
7	07	NPV advice I	60 min
8	07	NPV advice II	60 min
9	08-09	IRR, financial statements	30 min, 40 min
10	09	financial statements	60 min
11	10	comparables	90 min
12	11-12	investments — background, choices	30 min, 80 min
13	13	CAPM formula and inputs	80 min
14	13-15	CAPM use, efficient markets*	60 min, 30 min
15	16,17	corporate claims, ideal capital structure, start taxes	30 min, 65 min
16	18	corporate taxes (WACC, APV, financials)	80 min
17	19-20	personal taxes, start chapter 19	40 min
18	20	other capital structure theories	80 min
19	21-24	capital dynamics, empirics, i-banking	80 min
20	25	governance	
21	26	pro formas	
22		ethics discussion and/or current local finance research	
23		project presentation (incl pro forma)	

