

The Wharton School
Corporate Finance (100H)

Mr Krishna Ramaswamy
Fall 2013

FNCE 100: Corporate Finance (Honors)

FNCE [100]-301 TuThu 10:30am Room 1203 SHDH

FNCE [100]-302 TuThu 1:30pm Room 1203 SHDH

1 Course Description

The purpose of this course is to introduce techniques of financial analysis, with applications to corporate finance. The concepts developed in Finance 100 form the foundation for all elective finance courses. The main topics covered include (1) the time value of money and the net present value rule; (2) valuation of bonds and stocks; (3) capital budgeting decisions; (4) uncertainty and the tradeoff between risk and return; (5) corporate financing decisions; and (6) options.

The honors sections will take a more analytical and quantitative approach compared to other sections, and will cover some topics in more depth. My aim is to combine the teaching of all basic principles on which elective courses will build, and give you enough institutional background so that you can appreciate their practical application.

Knowledge of basic statistics and simple regression analysis is presumed: familiarity w Microsoft Excel or other spreadsheet program will be useful.

Text

Course Material

- Required: Course notes, links to relevant articles and past exams that will be made available on CANVAS.
- Strongly Recommended: *Corporate Finance* by Ross, Westerfield and Jaffe, 10th Ed.
You should have access to this book. I treat it as companion reading...it will round out your knowledge. Most of the text is easy reading; many of the problems are very easy, esp if you've read the text, and I will suggest that you work out selected Problems that are more challenging. So...if you do choose to purchase the text, you may also wish to purchase the solutions manual, although I plan to place at least one copy on Lippincott Reserve by the second week's end.
- A scientific or business calculator. It will be necessary for your calculator to have a x^y function. Most calculators have the basic financial functions you need:: on your work at home it's best to have access to Excel.

2 Course-related Information

Office & Hours

SHDH 3259, Campus 'phone 8-6206, email:: krishna@wharton.upenn.edu
Hours: Wednesday 2-3pm and Fridays 11-12noon.

Teaching Assistants

The TAs for this course are Megan Dwyer, Eileen Gao and Ulhas Jagdale. They will hold office hours (in SHDH 2400) and run an occasional review session; I will post their hours on Canvas after the first week.

Weekly Memos!!!

Every Thursday night I send an email to all of you, summarizing what was covered that week, and what will be covered the next week; it will have information on Problem Sets, Exams and so on, as reminders! *Ignore these emails at your peril.* Those of you who are non-Wharton students must send me an email if you did not receive it... I also post a copy of this email on Canvas.

Course Requirements

Your **COURSE GRADE** will depend on your performance on:

- Five problem sets which add up to 5%;
- One computer exercise, *to be done in groups of no more than three students*, that will count for 6%, in which you will compute measures of risk, and value a chosen firm's equity, and assess its cost of capital;
- Two Midterms that will count for 40%;
- One Final exam – given in the final exam period – which counts for 45%;
- Class Preparedness & Participation:: I call on people to answer some questions based on material that was assigned or covered the previous week. You should stay on top of the readings and assignments and try to answer the questions. This counts for 3%.

Exam Schedule

- Midterm 1: Wednesday, October 2, 6 – 8pm.
- Midterm 2: Tuesday, November 19, 6 – 8pm. (No Class that day.)
- Final Exam: Tuesday, December 17, 6 – 8pm.

These dates are lapidary – written in stone!! All exams are closed book, closed notes – bring a calculator, some pens, and immobilise – drowning is OK! – your cell-phone.

All exams are cumulative – i.e. they will cover material upto and including the week before the exam; Midterm 2 will emphasise the material covered after Midterm 1, but the final exam will stress the whole course! Prior to each exam I will run review sessions and the TAs will have extended office hours.

There are no make-up dates for midterms.... The make-up date for the Final follows University policy and will take place the following semester. All regrade requests must be made in writing within one week of the day the exams are returned. Any exam submitted for regrading of a question will be subjected to a complete regrading.

You cannot work in groups on the problem sets! You can discuss the line of attack with a colleague or the TAs, but you must work on them yourself, in a straight-backed chair with several sharp pencils and a wet towel nearby. *If you didn't do the work, don't turn it in.* The computer assignment may be completed and handed in by groups of at most three students. Assignments and Problem Sets turned in late won't be graded.

Your Calendars

Mark the following dates into your calendars: as you can see, there is a steady flow of work demanded in this course!

Date	Event	Remarks
Tue 10 Sep	Problem Set 1 Due	By 4pm in 2400 SHDH
Tue 24 Sep	Problem Set 2 Due	By 4pm in 2400 SHDH
Wed 02 Oct	Midterm 1	6–8pm, Rooms TBA
Tue 08 Oct	Problem Set 3 Due	By 4pm in 2400 SHDH
Tue 15 Oct	No Class Today	Make-up TBA
Tue 22 Oct	Problem Set 4 Due	By 4pm in 2400 SHDH
Tue 12 Nov	Problem Set 5 Due	By 4pm in 2400 SHDH
Tue 19 Nov	Midterm 2	6–8pm, Rooms TBA
Thu 05 Dec	Computer Assignment Due	By 4pm in 2400SHDH
Tue 10 Dec	Last Day of Class	
Tue 17 Dec	Final Exam	6-8pm, Rooms TBA

Problem Sets will be distributed in Canvas. Each Problem Set is due on a Tuesday; you can *begin* working on it at least 10 days prior and until the previous Friday before it's due, during which time it will be marked on Canvas as a *preliminary version*. On that Friday the version will be made *final*. This means that you can start working on the Problem Set typically 12 days in advance (!!!) and keep working on it as I add problems to the preliminary version, and finish it off the weekend before it's due. This promotes a steady effort and encourages revision of the material we cover... and it builds character!

Detailed Topics Outline

Here is a description of the topics we cover, with links to the Text's chapters. At this stage, the start date for each topic and the lectures needed for its coverage are tentative, so you should take these as approximate. Always rely on my Weekly Emails to review materials for the recently-concluded week, and to read suggested material for the following week.

Remember: the slides for each week will be posted on Canvas by the end of the previous week: **you must print them and bring them to class!**

Abbreviations: *Text* refers to Ross, Westerfield & Jaffe's 10 Ed.; numbers in ***bold*** are **required chapter readings**; numbers in [*square brackets*] are optional chapter reading.

Please keep in mind that the weekly email I send each Thursday will point you to specific readings and supplemental material on Canvas... the following is intended as a guideline!

1. Introduction & The Net Present Value Procedure (Start: Aug 29) 3 sessions

Following a brief introduction we begin by developing basic ideas of Valuation and the Discounted Cash Flow (DCF) often called the Net Present Value (NPV) approach. This is *the* very basic analytical tool in finance, which will be repeatedly used in different contexts and with increasing levels of sophistication in modeling. Some items we will learn along the way: *simple and compound interest, Present and Future Values; valuing an annuity, a perpetuity, a bond; the effective annual interest rate*. We learn how to compute payments and remaining values in a conventional fixed rate mortgage and a term loan.

Text 1, [2,3:: Acctg Review], 4,5

2. The NPV vs IRR comparison (Start Sep 10) 1 session

In viewing a prospective security (such as a share) when its market price is observable it is natural to compare the value we place on that security to its market price – and in answering that question we are led to ask whether the security offers a return that is higher or lower than some acceptable yardstick. This leads to the development of an internal rate of return (IRR) calculation which is oftentimes used as another valuation tool to assess prospective investments or projects. We'll compare the NPV and the IRR approach in this accept or reject decision, and in cases where we must choose among mutually exclusive opportunities.

Text 5

3. Fixed Income Valuation (Start Sep 12) 2 sessions

The market for fixed income instruments (commonly referred to as the *Bond Market*) is huge; governments (e.g. the US Treasury), government agencies, municipalities and corporations all borrow money on this organized market. We study the markets for Treasury Bills and the valuation of pure discount bonds; we'll use the prices of these bonds to value coupon bearing bonds, find their associated yields-to-maturity and make a connexion between these yields and the constellation of forward rates, which are rates quoted today for arranging a loan(borrowing) or an investment(lending money) with start dates and repayment dates in the future. This discussion will culminate in the development of the *yield curve*.

Text 8

4. Equity Valuation (Start Sep 19) 2 sessions

We now move to applying the DCF method to value a share of a company's stock: a prospective buyer of a share of common stock anticipates a stream of cash dividends paid by the company out

of its earnings each period... in a series of small steps we move from valuing this stream assuming the firm is infinitely-lived; then assuming a pattern of growth to the dividend stream over a finite period, perhaps with several stages of growth to becoming a mature firm; and analyzing what value accrues to the firm's future growth opportunities. *Text 9*

5. Capital Budgeting (Start Sep 26) 3 sessions

In this part of the course we will confront the important managerial choice of computing the NPV of projects and investment proposals in practical contexts... there is no better way to do this than by example, and we'll do several. That's the best way to learn this subject. Here we must take practical considerations into account: accounting for depreciation in computing the cash flows from an investment, taking the effect of inflation, and comparing investments with different lives (horizons).

Text 6, [7.1-7.2]

6. Risk and Return: computation and statistical measures (Start Oct 8) 2-3 sessions

We'll study the behavior of returns to common stocks and bonds, over various horizons; we'll study their distributional properties (as random variables), developing notions of expected returns, standard deviations and correlations. We'll move to asking the natural question: what happens to our prospective return as we form portfolios (invest fractions of our wealth in several securities) – and we'll study the behavior of the expected return and risk measures of multiple-asset portfolios. We'll decompose – *parse* is a better word – the total risk of holding a security or a portfolio of securities into component sources, sometimes called systematic (or non-diversifiable) and unsystematic (or unique or idiosyncratic) risks, and demonstrate that the former is averaged in portfolios but the latter can be diversified away.

Text 10, 11.1-11.6

7. Asset Pricing Models (Start Oct 22) 2-3 sessions

A natural question to ask is whether by aggregating the demands of risk-averse investors for bonds and stocks, and aggregating the supplies of these assets from corporations and others we can find an equilibrium relationship between the *expected return* to an asset (a reward for bearing risk) and its *risk* – and we study alternative *asset pricing models* but briefly. We must leave a little something for later electives to cover!

Text 11.7-11.9, 12

8. Market Efficiency (Start Oct 31) 1 session

Markets for risky assets react to new information: we study here notions of how efficiently they respond. We'll look at some evidence.

Text 14.1-14.4, [14.5-14, 8]

9. The Capital Structure Decision (Start Nov 5) 3-4 sessions

We've covered one important decision that financial managers make – that of choosing between risky projects in capital budgeting – and we discussed the Net Present Value Rule as a natural check of benefits over costs in present value terms. Here we'll study the capital structure decision: the way we *finance* or find the funds for these projects, by choosing a mix of bonds and stocks that constitute the principal forms of corporate liabilities: first in an idealised taxless world with perfect markets, and then in a world where there are taxes and costs of financial distress.

A common way people proceed in this topic is to ask what the appropriate cost of capital is for the firm; and another way is to compute the Adjusted Present Value of a potential investment, taking the costs dictated by the chosen capital structure.

Text [15], 16, [17.1-17.4]

10. The Dividend Decision (Start Nov 21) 1 session

We study here the way dividend payments to common shareholders are decided; additional topics include stock dividends and stock splits, the impact of taxes, and empirical evidence on dividend payouts.

Text 19.1-19.6

11. Derivatives: Forwards, Options and their Applications (Start Nov 26) 1-2 sessions

Innovation in financial markets – especially in the area of derivative securities – occurs rapidly. We study the basic forms of these derivatives and some elementary applications.

Text 22.1-22.6, 25.1-25.4

12. Miscellaneous Topics:: Capital Raising by Investment Banks, The World of Mergers & Acquisitions, What Hedge Funds Do... Time Permitting, Sessions until 10 Dec

Here I'll discuss sundry topics.