FNCE 100
Spring 2009

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Corporate Finance

The objective of this course is to provide an introduction to the fundamental principles of asset valuation, investment and financing decisions of firms. The main topics covered in class include time value of money, diversification, risk and return, capital budgeting, and corporate financing decisions.

Course Materials

- Required textbook: R.A. Brealey, S.C. Myers and F. Allen, *Principles of Corporate Finance*, McGraw-Hill, 9th edition, 2008.

  The book contains assigned readings for the course and may prove useful in future courses. Note that all assigned reading should be completed prior to the class for which it is scheduled.

- Recommended: *Solutions Manual* to practice questions in the textbook.

  J.B. Berk and P.M. DeMarzo, *Corporate Finance (with MyFinanceLab)*, Addison Wesley, 1st edition.

- Slides posted on the course web site: These slides have been designed to accompany the lectures. As a suggestion, you may want to print them out and bring them to each lecture to ease note taking.

- Practice problem sets: Problem sets (and their solutions) will be posted on the course web site. In addition, I will suggest you a number of textbook quiz questions and problems. Although problem sets are not graded, they are strongly recommended, and you should treat them as if they were assigned. It is important that you try the problems before you see the solution, otherwise the exam will be the first time you have to solve a problem without any additional help.

Evaluation

Your grade for the course will be based on two in-class quizzes, a final exam, and class participation. The course grade is determined as follows:

$$\text{Grade} = 0.10 * \text{Participation} + 0.25 * \text{Quiz1} + 0.25 * \text{Quiz2} + 0.40 * \text{Final}$$

All the quizzes and the final are cumulative, closed-book and closed-note exams (however, you will be provided with a formula sheet). All you should bring is writing utensils and a calculator; laptops are not allowed. To account for any differences in difficulties across exams, quiz and final scores will be standardized when computing the course grades.

Quiz schedule is specified on the last page of the syllabus. The date and the place of the final exam are determined by the university and, once announced, will be posted on the course web page.

Regrading Policy

There are no verbal appeals of grades. You must provide a written statement as to where and why there is a problem. All regrade requests must be submitted within one week (not later!) from the class meeting when quizzes are handed back. Importantly, the entire quiz/exam will be regraded. As a result, the overall score may increase, remain the same, or decrease, and no subsequent appeals are accepted.

Make-up Policy

Make-up quizzes are only given in exceptional circumstances such as illness or family emergency (evidence of which must be provided). Since quizzes are in-class and their dates are pre-specified in the syllabus, it is expected that students adjust their schedules (i.e., attending your cousin's wedding or job interview are not valid excuses for missing a quiz). The make-up quiz will be held on Friday, April 03 at noon. Note also that there will be no make-up final except as required by university policy, in which case you have to obtain a permission from the dean's office.

Class Attendance and Rules

Students are expected to attend sections for which they are registered. If you want to switch to some other section, you have to drop your current section and officially enroll in the other.

All cell phones and electronic devices must be turned off and out of sight during class (failure to comply with this rule will affect your class participation grade and may result in dismissal from the class).

Office Hours and all other relevant course information will be posted on the course webcafe page at:

https://webcafe.wharton.upenn.edu/eRoom/fnce/100-sp09-2

You will need to have a Wharton computing account to access the webcafe page. Non-Wharton students may obtain an account at:

http://accounts.wharton.upenn.edu

Academic Integrity

Academic honesty is expected. An act of dishonesty, such as cheating of any form, will lead to grade penalties. In addition, all cheating incidents are reported to the Office of Student Conduct.

Course Outline

1 **Discounting**: During this class we will cover the intuition and basic mechanics associated with the time value of money. In particular, we will talk about present and future values, compounding effect, and valuation of perpetuities and annuities.

♢ Assigned Reading: Chapters 1, 2.1–2.2, 3

2 **Bond Valuation**: After a brief overview of some institutional details, this class focuses on valuing debt securities using financial mathematics developed earlier. We will cover valuation of discount and coupon bonds, yield to maturity and term-structure of interest rates, differences between real and nominal interest rates, as well as spot and forward rates.

♢ Assigned Reading: Chapters 4, 15.1, 25.1–25.6

3 **Valuation of Stocks**: This class provides an overview of equity securities (stocks or equities) focusing on their valuation. In addition, we will discuss financial ratios that are widely used in practice (such as dividend yields and price/earnings multiples).

♢ Assigned Reading: Chapters 5, 15.2

4 **Portfolio Analysis and Diversification**: This class provides an overview of asset allocations. We will discuss how investors can reduce risk of their portfolio holdings without sacrificing any expected return by simply spreading their wealth over a number of assets in an appropriate way. We will begin with a simple two-asset example to illustrate the intuition behind diversification. The analysis is then extended to the N-asset case, followed by a discussion of various practical issues.

♢ Assigned Reading: Chapters 8.1–8.3, 9.1, Review notes on basic statistics and utility

5 **Asset Pricing Models**: This class extends the material covered earlier to derive the Capital Asset Pricing Model (CAPM), which is widely used in capital budgeting and is one of the cornerstones of modern finance. This class emphasizes the difference between covariance and variance risks, and highlights the difference between systematic sources of risks (which are priced or rewarded by the market) and diversifiable risk (which is not priced).

♢ Assigned Reading: Chapters 8.4, 9.2–9.4

6 **Financing Decisions – Leverage and the Weighted Average Cost of Capital**: This class considers firms' financing decisions. What mix of debt (loans/bonds) and equity (shares) should the firm use to raise funds to finance its investments? The seminal Modigliani and Miller propositions, with and without corporate taxes, are reviewed. The main theme of the class is to evaluate a new investment opportunity for the firm where the appropriate discount rate is unknown. If the beta was known, the discount rate could be computed directly from the CAPM. However, in this class we consider the case where the beta of the new project is unknown. We show how to use the

beta of another company (that is made up primarily of assets like the new project) and adjust for differences in capital structure.

♢ Assigned Reading: Chapter 18

7 Investment Decisions and Capital Budgeting: This class provides an overview of capital budgeting, i.e., determining which investments a firm should undertake. The net present value rule (NPV), which is widely used in practice, is developed and illustrated with several examples. In addition, we will discuss a number of alternative evaluation techniques, including internal rate of return and payback period, highlighting potential problems with their use.

♢ Assigned Reading: Chapters 6 and 7

8 Forward and Futures Contracts: This class provides an overview of forward and futures contracts. Forwards and futures belong to the class of securities known as derivatives since their value is derived from the value of some other security. The price of a foreign exchange forward contract, for example, depends on the price of the underlying currency and the price of a pork belly futures contract depends on the price of pork bellies. Derivatives trade both on exchanges (where contracts are standardized) and over-the-counter (where the contract specification can be customized). The focus of this class is on (1) definitions and contract specifications of the major exchange-traded derivatives, (2) the mechanics of buying, selling, exercising, and settling forward and futures contracts, (3) derivative trading strategies including hedging, and (4) the relationships between prices of derivatives, the underlying security, and a riskless bond.

♢ Assigned Reading: Chapters 27.1–27.3

9 Option Contracts: This class provides an overview of option contracts. Likewise forwards and futures, options belong to the class of securities known as derivatives since their value is derived from the value of the underlying security. The price of a stock option, for example, depends on the price of the underlying stock and the price of a foreign currency option depends on the price of the underlying currency. The focus of this class is on (1) definitions and contract specifications of the major exchange-traded options, (2) the mechanics of buying, selling, exercising, and settling option contracts, (3) option trading strategies including hedging, and (4) the relationships between prices of options, the underlying security, and a riskless bond.

♢ Assigned Reading: Chapter 21

Tentative Schedule

Lecture	Date	Topic
1	Jan. 14	Introduction and Discounting
2	Jan. 21	Discounting
3	Jan. 26	Bond Valuation
4	Jan. 28	Bond Valuation
5	Feb. 02	Bond Valuation
6	Feb. 04	Valuation of Stocks
7	Feb. 09	Valuation of Stocks
8	Feb. 11	Portfolio Analysis and Diversification
9	Feb. 16	***Quiz 1*** *on Discounting, Bond and Stocks*
10	Feb. 18	Portfolio Analysis and Diversification
11	Feb. 23	Portfolio Analysis and Diversification
12	Feb. 25	Asset Pricing Models
13	Mar. 02	Asset Pricing Models
14	Mar. 04	Asset Pricing Models
15	Mar. 16	Financing Decisions
16	Mar. 18	Financing Decisions
17	Mar. 23	Financing Decisions
18	Mar. 25	Investment Decisions and Capital Budgeting
19	Mar. 30	***Quiz 2*** *on everything up to and including Financing Decisions*
20	Apr. 01	Investment Decisions and Capital Budgeting
21	Apr. 06	Forward and Futures Contracts
22	Apr. 08	Forward and Futures Contracts
23	Apr. 13	Forward and Futures Contracts
24	Apr. 15	Option Contracts
25	Apr. 20	Option Contracts
26	Apr. 22	Option Contracts
27	Apr. 27	Review for the Final