

## BROWN UNIVERSITY

### Econ 172 (Section 01) Corporate Finance – Syllabus

Fall 2007

**Class meetings:** Tuesdays and Thursdays, from 10:30 to 11:50AM.

Room: List Art Center 110

**Instructor :** A. Yasuhara

Office: Blistein House, Room 225

E-mail: Akio\_Yasuhara@brown.edu

Office hours: tuesdays and Thursdays, from 1:00 to 2:00PM, or by appointment.

Office hours during the reading week and the exam week will be announced later.

**Teaching Assistant:** Mr. Masaki Yamada

E-mail address: Masaki\_Yamada@brown.edu

Office hours: to be announced

TA conference sections:

C01: Fridays, 12:00-12:50 PM in Wilson Hall 309

C02: Fridays, 3:00- 3:50 PM in Wilson Hall 309

**Textbook and Reading Materials (all required):**

\* Brealey, Myers and Allen (latest ed.), *Principles of Corporate Finance*.

\* *The Wall Street Journal*

\* Lecture notes and homework sets on our Course Web Page at:

<http://mycourses.brown.edu>

### Grading Rule

The course grade will be based on your performance on homework sets (30 percent of the final grade), one mid-term exam (30 percent) and the final exam (40 percent). Show a 90-percent-or-above weighted average performance to receive a sure “A” for the course, and 80-percent-or-above performance to assure a “B”.

### Homework

Homework sets are on our course web-page for download. They are in the ‘pdf’ format. Print them out to write your answers on them. Homework is essential for (1) confirming your understanding of the course materials, (2) testing your ability to apply analytical skills to cases different from lectures. and (3) the preparation for the exams.

Homework problems must be solved by yourself without any help from anyone else. The due date for each homework will be announced in class. The due date shall be strictly enforced. Do not ask your friend to hand in your homework. If you will be absent from the class meeting due to unavoidable reasons, hand in homework into Professor Yasuhara’s mailbox (Robinson Hall) or by e-mail attachment.

### Auditors

Auditing students have to hand in all homework answers and show a passing grade.

**The dates of the exams are:**

Midterm exam (in class, 80 minutes)..... Tuesday, October 16.

Final exam ..... Wednesday, December 19, from 9:00 to 11:10AM.

## Course Outline

### Part 1. Preparation – This part overlaps with Ec171 (former Ec177 - Investments)

1. Statistics for risk analysis (Chapter 7, sections 2 and 3 – to be discussed in your TA sections.)
  - uncertainty tree
  - random variables
  - probability distribution
  - expected value, variance
  - covariance and correlation
2. The financial market structure
  - a. Participants
  - b. Institutions
  - c. Instruments
3. Valuation methods in finance
  - a. Present value calculations (chapter 3)
    - Equity valuation (chapter 4)
    - Bond valuation (chapter 4)
  - b. State-by-state valuation method (supplementary lecture note)
    - state-contingent claims
4. Portfolio selection theory (chapters 7 and 8)
  - a. Risk-return trade-off
  - b. Diversification
  - c. The market-equilibrium model – the CAPM
5. Market efficiency (chapter 13)
  - a. The hypothesis regarding the informational efficiency
  - b. Some implications
  - c. Some empirical evidence

————— above items overlap with Ec171 (Ec177) —————

### Part 2. Introduction

- I. Introduction to Corporate Finance (chapters 1 and 2)
  1. Forms of business organization
  2. Aspects of corporate finance
  3. The goal of financial management
  4. Brief review of accounting
  5. Taxation

### Part 3. Capital Budgeting

- II. Net Present Value (chapters 2 and 5)
  1. Net Present Value and the cost of capital
  2. Pay-back-period rule
  3. Internal rate of return
  4. Capital rationing
- III. Cash-based decision making (chapter 6)
  1. Incremental cash flows
  2. Inflation
  3. Long-lived and short-lived equipment – equivalent annual cost
  4. Replacement decision
  5. Excess capacity
  6. Optimal timing
- IV. Risk (chapter 9)
  1. Company cost of capital and project cost of capital

2. Weighted average cost of capital
3. In terms of the CAPM  $\beta$  coefficients
4. Operating leverage and financial leverage
- V. Practical problems of capital budgeting (mainly chapters 10; also read chapters 11 and 12.)
  1. Sensitivity analysis
  2. Monte-Carlo Analysis
  3. Option values and decision trees
- VI. Real options (Chapters 20, 21 and 22)
  1. Option valuation model I – binomial-tree
  2. Option valuation model II – the Black-Scholes model
  3. Real options

#### **Part 4. Capital Structure**

- VII. Financial instruments for corporations (chapters 14 and 15)
  1. Equity and debt
  2. Issuing securities
  3. IPOs
  4. Venture capital
- VIII. Dividend (chapter 16)
  1. Different forms of dividend payments
  2. Modigliani-Miller irrelevance theorem
  3. Tax and other factors
- IX. How much should the firm borrow (chapters 17, 18 and 19)
  1. Modigliani-Miller theorem
  2. Traditional view
  3. Tax effects
  4. Cost of financial distress: bankruptcy cost
  5. Game of risk shifting
  6. Asymmetric information
  7. Adjusted cost of capital v. adjusted NPV

#### **Part 5. Other Topics (if time allows)**

- Leasing (chapter 26)
- Risk management (chapter 27)
- Mergers (chapter 33)
- Inventory management
- Cash-balance
- Short-term financing