

15.418 Corporate Finance

(Monday, Wednesday 10:00-11:30 or 1:00-2:30, E62-276; and Friday 2:30-4:00, E52-164)

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**Prerequisites:** Finance Theory I (15.401/411) and Accounting (15.515/501).

Corporate Finance is an introduction to basic principles and decision-making tools for corporate financial management. It covers investment decisions, financing decisions and the management of cash flows. Specific topics include capital budgeting, valuation and the cost of capital, working capital management, security issues, dividend policy, optimal capital structure, and real options. Monday-Wednesday classes mostly use case studies to introduce and apply finance to these topics. Friday classes put teams of students to work on more extensive applied projects.

Friday classes teach how to work with financial spreadsheets, databases and statistical methods used in applied corporate finance. These sessions also cover valuation practice, including estimation of the cost of capital, at a deeper and more detailed level. Student teams will prepare two reports, one valuing investment in an oil field and one analyzing for a potential acquisition. There will be extensive instruction and practice in communication, including oral and PowerPoint presentations.

15.418 a 15-unit undergraduate subject. It is approved as an Institute Laboratory subject and as a CI-M subject for Course 15 students.

Monday-Wednesday classes meet with section A or B of 15.402, Corporate Finance. Prof. Thesmar will teach most of the Monday-Wednesday sessions, Prof. Myers most of the Friday “lab” sessions.

### **Class Procedures and Case Memoranda (Monday-Wednesday Classes)**

For each case, Prof. Thesmar will assign case questions and you will have to submit a two-page memorandum with your proposed answers to these questions. You are allowed and encouraged, but not required, to meet in groups outside of class to discuss and analyze the cases. If you choose to do so, the group cannot be larger than four students. We will accept one memorandum from the group and count it for all students in the group. Each group member must make a substantial contribution to each part of the assignment. It is not acceptable, e.g., to divide the assignments amongst the team members.

The rules for writing memoranda are as follows:

- Each memorandum should be typed and not exceed two pages.
- The two-page limit is for text only; you may attach as many numerical calculations as you wish.
- Write these as if you were writing a recommendation to a CEO (or other major decision maker).
- The memoranda are due at the beginning of the class (see grading criteria below).

Because of the nature of this course (and the grading criteria, see below), it is extremely important that you attend every class, arrive on time and be prepared to participate.

Starting from the second class on, I am asking you to sit in the same spot for the duration of the semester. You should bring your name tag to each class, to facilitate the discussion and receive appropriate credit for your remarks.

A mutually supportive learning environment depends on active attention and engagement. For this reason, the use of laptops, iPads, PDAs, phones and any other electronics with on/off switches is not allowed during classroom sessions. While some students like to use them for note-taking or other pursuits, the value of legitimate use of laptops and mobile devices is far outweighed by the distraction that they create for their classmates and the overall deleterious effect on the learning environment.

### **Projects**

The Friday “lab” sessions are designed to prepare and assist student teams (four or five students per team) working on two realistic and challenging projects. The first is the Yellow Moon case, which requires an expert valuation of investment in an offshore oil field. Each student team will have to master and modify the project spreadsheet, choose a long-term forecast for oil prices,

estimate the cost of capital and value the project. The “deliverable” is a valuation report, probably 10 pages plus tables and figures.

The second project is an “M&A” analysis and valuation of a potential merger or acquisition. Each team chooses a pair of companies that could be worth more together than apart. The second project has three deliverables: a written report, probably 25 pages plus tables and figures; a PowerPoint presentation, and an oral presentation in class.

The second project can also be a security analysis of several companies in a given industry, or an independent research paper, for example an event study.

## **Grading**

The final grade will be a weighted average of performance in the following categories:

- 10%** Class participation in Monday-Wednesday classes
- 5%** Case write-ups for Monday-Wednesday classes
- 50%** Team projects – 20% content and 30% communication
- 35%** Final exam

## **Project Grading**

The 50% weight given to the team projects includes a 30% weight for communication. Each project will be graded twice, once for content and once for communication:

1. The quality and completeness of each team’s financial analysis will account for 20% of each student’s grade: 4% for Yellow Moon and 16% for the second team project.
2. Clarity and effectiveness of communication in the written reports and the PowerPoint and oral presentations will account for 30% of your grade, 6% for Yellow Moon and 24% for the second team project. The grade for Yellow Moon will be based on the written report. The communication grade for the second project will be divided between the written report (16%) and the PowerPoint and oral presentation (8%).

These grading standards assume that each student contributes a full share to his or her team’s analysis and deliverables. Slackers, if any, will be identified by the TAs and instructor. Slackers’ grades will be adjusted appropriately.

## Course Policies

The course policies are designed to ensure fairness. By remaining enrolled in the course, you agree to abide by the policies detailed below:

- **The final exam cannot be rescheduled or made up.** Treat the exam date as you would an important meeting in the business world. In the unlikely event that you are faced with unforeseeable and unavoidable circumstances that will cause you to miss the exam, you must talk to me immediately. Travel is not an acceptable reason for exam rescheduling.
- **Re-grades.** The TAs and instructor will work hard to ensure that the same partial credit is allocated to the same partially correct answer on each exam. Occasionally, we will make mistakes in our grading, and we are eager to correct mistakes subject to the following limits. If you believe that there was a mistake in the grading of your exam, *within one week* following the return of the exam, submit the original exam and a separate *written explanation* of the points of contention to me. If the re-grade request is made after one week or without an accompanying written explanation, no re-grade will be given. All re-grade decisions are final. We reserve the right to correct all mistakes made grading an exam submitted for a re-grade.
- **Special Arrangements.** If you have a documented disability and anticipate the need for accommodations in this course, please make arrangements as soon as possible. Please contact the MIT Coordinator of Disabilities Services to request assistance in arranging appropriate accommodations with me.
- **Illness and emergency.** Documented evidence that you were seriously ill or had a serious emergency at the scheduled time of the final exam are the only valid excuses for missing an exam. In order to be excused from the exam, you must contact me *prior to the exam* and be ready to provide documentation after the exam.

## Course materials

- Course packet (required):
  - Contains the case studies, and some supplementary readings for the course.
  - You can purchase the course packet at <http://www.study.net/mit>.
- Course website:
  - Stellar: <http://stellar.mit.edu/>.
  - Make sure you have access to Stellar (contact the course assistant if you are unable to access Stellar).
  - Check Stellar at least once a week. All course announcements will be posted on Stellar.
- Textbooks (optional):
  - P. Asquith, L.A. Weiss, Lessons in Corporate Finance, 1st ed., Wiley.

- R. Brealey, S.C. Myers, and F. Allen, Principles of Corporate Finance, 11th ed., Irwin, McGraw-Hill.
  - R.C. Higgins, Analysis for Financial Management, 10th ed., Irwin, McGraw-Hill.
  - Additional material:
    - Handouts (slides) will be provided at the beginning of each class. Some of these slides contain gaps which we will fill out together in class.
- We will post solutions of examples at the end of each class and a sample final exam in the second half of the semester.

Additional reading material, including assignments and background material for the team projects, will be posted on Stellar. Make sure you join the class in Stellar!

### **Administrative Assistants**

Jonathan Cowin, E62-631, 617-324-7023, [jcowin@mit.edu](mailto:jcowin@mit.edu) (Thesmar)  
Patsy Thompson, E62-611, 617-715-4817, [pthomps@mit.edu](mailto:pthomps@mit.edu) (Myers)

### **Teaching Assistant for Monday-Wednesday sessions**

Section A: Eduardo Moore, [edumooore@mit.edu](mailto:edumooore@mit.edu)  
Section B: Wilson Huang, [Wkhuang@mit.edu](mailto:Wkhuang@mit.edu)

### **Teaching Assistants for Friday “lab” sessions**

Matias Lyon Schurch [malyon@mit.edu](mailto:malyon@mit.edu)  
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**COURSE OUTLINE**

The course outline is subject to changes. Please follow the announcements in class and on Stellar.

Class #	Day	Date	Topic
1	Wednesday	9/6	Introduction & cash flow Management
Lab Session	Friday	9/8	Lecture 1: Capital Investment Decisions
2	Monday	9/11	Case Study: Wilson Lumber (Part I)
3	Wednesday	9/13	Case Study: Wilson Lumber (Part II)
Lab Session	Friday	9/15	Lecture 1 continued
4	Monday	9/18	Case Study: Play Time Toy
5	Wednesday	9/20	Case Study: SureCut Shears
Lab Session	Friday	9/22	WRAP Presentation on collaborative writing of Yellow Moon
6	Monday	9/25	Lecture: Capital Structure (Part I)
7	Wednesday	9/27	Case Study: Massey Ferguson
Lab Session	Friday	9/29	No class
8	Monday	10/2	Lecture: Capital Structure (Part II)
9	Wednesday	10/4	Case Study: Marriott
Lab Session	Friday	10/6	Lecture 1 wrap up
10	Wednesday	10/11	Lecture: Asymmetric Information and Agency Costs

Lab Session	Friday	10/13	Yellow Moon reports
11	Monday	10/16	Case Study: Intel
12	Wednesday	10/18	Case Study: H partners and 6 Flags
Lab Session	Friday	10/20	Lecture 2.  Draft of Yellow Moon reports due before start of class
Lab Session	Friday	10/27	Lecture 2A.  Final Yellow Moon reports due before start of class
13	Monday	10/30	Lecture: Valuation of Free Cash Flows
14	Wednesday	11/1	Case Study: Diamond Chemicals
Lab Session	Friday	11/3	M&A project memo due before start of class
15	Monday	11/6	Lecture: WACC and APV
16	Wednesday	11/8	WACC and APV / Harris Seafoods
Lab Session	Friday	11/10	No class
17	Monday	11/13	Case Study: Harris Seafoods
18	Wednesday	11/15	Case Study: Dixon
Lab Session	Friday	11/17	WRAP workshop on oral presentations
19	Monday	11/20	Case Study: Arundel (Real Options)
20	Wednesday	11/22	No Class
Lab Session	Friday	11/24	No Class
21	Monday	11/27	Lecture: Valuing a Company
Lab Session	Tuesday – Friday	11/28 – 12/1	Team feedback on draft reports

22	Wednesday	11/29	Case Study: Cooper Industries
Lab Session	Friday	12/1	Draft PowerPoint presentation due by 5pm
Lab Session	Monday – Wednesday	12/4 – 12/6	Team feedback on draft PowerPoint presentations
23	Monday	12/4	Case Study: Southland
24	Wednesday	12/6	Corporate Governance
Lab Session	Wednesday – Friday	12/6 – 12/8	Dress rehearsals with WRAP staff for PowerPoint presentations
Lab Session	Friday	12/8	Final M&A report and PowerPoint presentation due at or before start of the class
25	Monday	12/11	Review Session
26	Wednesday	12/13	Recitation

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**Course Outline (Detailed)**

**Part I: Cash Flow Management**

**9/6 – Introduction**

**Lecture: Cash Flow Management**

- Reading:
  - Asquith, Weiss, ch. 1: “Introduction”
  - Higgins, ch. 1: “Interpreting Financial Statements”
  - Brealey, Myers, Allen, ch. 14: “An Overview of Corporate Financing”

**9/8 – Lab Session: Introduction and overview of the lab sessions.**

**Lecture 1**

**9/11 – Case Study: Wilson Lumber Company (Part I)**

- Reading:
  - Asquith, Weiss, ch. 2: “Determining a Firm’s Financial Health”
  - Brealey, Myers, Allen, ch. 28: “Financial Analysis”
  - Higgins, ch. 2: “Evaluating Financial Performance”

**9/13 – Case Study: Wilson Lumber Company (Part II)**

- Reading:
  - Asquith, Weiss, ch. 3: “Pro Forma Forecasts”
  - Higgins, ch. 3: “Financial Forecasting”
  - Higgins, ch. 4: “Managing Growth”

**9/15 – Lab Session: Lecture 1 continued**

**9/18 – Case Study: Play Time Toy**

- Reading:
  - Asquith, Weiss, ch. 4: “The Impact of Seasonality on a Firm’s Funding”

**9/20 – Case Study: SureCut Shears**

**9/22 – Lab Session: WRAP presentation**

**Part II: Financing**

**9/25 – Lecture: Capital Structure (Part I)**

- Reading:
  - Asquith, Weiss, ch. 6: “An Introduction to Capital Structure Theory”
  - Brealey, Myers, Allen, ch. 17: “Does Debt Policy Matter?”
  - Brealey, Myers, Allen, ch. 18: “How Much Should a Corporation Borrow?”
  - Higgins, ch. 5: “Financial Instruments and Markets”
  - Higgins, ch. 6: “The Financing Decision”

**9/27 – Case Study: Massey-Ferguson**

- Reading:
  - Asquith, Weiss, ch. 5: “Why Financing Matters”
  - Myers: “The Search for Optimal Capital Structure”

**9/29 – Lab Session: No Class.**

**10/2 – Lecture: Capital Structure (Part II)**

**10/4 – Case Study: Marriott**

- Reading:
  - Asquith, Weiss, ch. 7: “Capital Structure Decisions”
  - Asquith, Weiss, ch.8: “Investment Decisions”<sup>1</sup>
  - Brealey, Myers, Allen, ch. 24: “The Many Different Kinds of Debt”
  - Barclay, Smith, Watts: “The Determinants of Corporate Leverage and Dividend Policies”
  - Landier, Thesmar, “Financial contracting with optimistic entrepreneurs”, *Review of Financial Studies* 2009

**10/6 – Lab session: Lecture 1 wrap up.**

**10/11 – Lecture: Capital Structure: Asymmetric Information and Agency Costs**

- Reading:
  - Asquith, Weiss, ch. 12: “A Continuation of Capital Structure Theory”
  - Asquith, Mullins, “Signaling with Dividends, Stock Repurchases, and Equity Issues”

**10/13 – Lab Session**

**10/16 – Case Study: Intel**

- Reading:
  - Asquith, Weiss, ch. 11: “Dividend Policy”
  - Brealey, Myers, Allen, ch. 16: “Payout Policy”
  - Opler, Pinkowitz, Stulz, Williamson, “Corporate Cash Holdings”

**10/18 – Case Study: MCI**

- Reading:
  - Asquith, Weiss, ch. 10: “The Impact of Operating Strategy on Corporate Finance Policy”
  - Brealey, Myers, Allen, ch. 15: “How Corporations Issue Securities”
  - Jen, Choi, Lee, “Some New Evidence on Why Companies Use Convertible Bonds”

**10/20 – Lab Session: Lecture 2**

### **III: Valuation**

**10/27 – Lab Session: Lecture 2A**

**10/30 – Lecture: Valuation of Free Cash Flows**

- Reading:
  - Asquith, Weiss, ch. 13: “The Time Value of Money: Discounting and Net Present Values”
  - Higgins, ch. 7: “Discounted Cash Flow Techniques”

**11/1 – Case Study: Diamond Chemicals (A)**

**11/3 – Lab Session**

**11/6 – Lecture: WACC and APV**

- Reading:
  - Asquith, Weiss, ch. 14: “Valuation and Cash Flows”
  - Brealey, Myers, Allen, ch. 19: “Financing and Valuation”
  - Higgins, ch. 8: “Risk Analysis in Investment Decisions”
  - Krüger, Landier, Thesmar, “The WACC fallacy: Real effects of using a single discount rate”, *Journal of Finance* 2015

**11/8, 11/13 – Case Study: Harris Seafoods**

- Reading:
  - Asquith, Weiss, ch. 15: “Valuation”
  - Asquith, Weiss, ch. 16: “Valuation Nuances”
  - Brealey, Myers, Allen, ch. 10: “Project Analysis”

**11/10 – Lab Session**

**No Class**

**11/15 – Case Study: Dixon Corporation**

**11/17 – Lab Session**

**WRAP workshop on oral presentations.**

**11/20 – Case Study: Arundel Partners (Real Options)**

- Reading:
  - Brealey, Myers, Allen, ch. 22, “Real Options”
  - Luehrman, “Investment Opportunities as Real Options”

**11/22 – No Class**

**11/24 – Lab Session: No Class**

**11/27 – Lecture: Valuing a Company**

- Reading:
  - Higgins, ch. 9: “Business Valuation and Corporate Restructuring”
  - Brealey, Myers, Allen, ch. 31: “Mergers”

**11/28 – 12/1 – Lab Session: Team feedback on draft reports.**

**11/29 – Case Study: Cooper Industries**

- Reading:
  - Asquith, Weiss, ch. 18: “Mergers and Acquisitions: Strategic Issues”
  - Asquith, Weiss, ch. 19: “Valuing an Acquisition: Free Cash Flows to the Firm”

**12/1 – Lab Session: No formal class. Time may be used for team meetings.**

**12/4 – Case Study: Southland Corporation**

- Reading:
  - Asquith, Weiss, ch. 17: “Leveraged Buyouts and Private Equity”
  - Brealey, Myers, Allen, ch. 32: “Corporate Restructuring”
  - Boucly, Sraer, Thesmar, “Job Creating LBOs”, *Journal of Financial Economics* 2009
  - Davis, Haltiwanger, Hadley, Jarmin, Lerner, Miranda, “Private Equity, Jobs, Productivity”, *American Economic Review* 2014

**12/4 – 12/6 – Lab Session: Team feedback on draft PowerPoint presentations.**

## **12/6 – Corporate Governance**

- Reading:
  - Brealey, Myers, Allen, ch. 32: “Governance and Corporate Control around the World”
  - Sraer, Thesmar, “Performance and Behavior of Family Firms”, *Journal of European Economic Association* 2007
  - Kramarz, Thesmar, “Social Networks in the Boardroom”, *Journal of European Economic Association* 2013
  - Landier, Sauvagnat, Sraer and Thesmar, Bottom-up Corporate Governance, “Strategic and Financial Bidders in Takeover Auctions”, *Review of Finance* 2011

**12/6 – 12/8 – Lab Session: Dress rehearsals with WRAP staff for PowerPoint presentations.**

**12/8 – Lab Sessions: Class reserved for oral PowerPoint presentations.**

**12/11 – Review for Final**

**12/13 – Recitation**

**Final Exam – during final exam week check registrar exam schedule for details**