

SLOAN SCHOOL OF MANAGEMENT  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY



SYLLABUS: CORPORATE FINANCE (15.402), SECTIONS A & B

15.402 Corporate Finance  
Fall 2019

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This introductory course in Corporate Finance takes as its viewpoint the **CFO of a firm**, though lessons from the course will be valuable and **relevant to many strategic roles** in modern organizations. We assume that the CFO's job is to maximize firm value through three types of decisions: which projects to invest in, how to finance that investment, and how to manage the cash flows of the firm. This is an **applied course** that will primarily use **case studies** to introduce financial tools needed to make value-enhancing business decisions. A delightful side effect is that we will **dive into a broad array of industries**, including tech, entertainment, retail, heavy manufacturing, hospitality, telecommunications, and finance. We ultimately are aiming to **build intuition** in finance beyond the nitty gritty of accounting statements. As such, we will also analogize liberally to other domains, such as **personal finance**.

**A. Course Structure**

The course consists of three main modules:

- 1) **Cash Flow Management:** The course starts with the tools of cash flow management. Cash flow management is necessary to forecast financing needs and to value assets. The tools we will discuss include ratio analysis, the sources and uses of funds statement, and pro forma statements.
- 2) **Capital Structure and Financing Needs:** The course continues with analyzing the factors that determine a company's need for external financing. We then move on to a consideration of the optimal mix of debt and equity financing. We also discuss payout policy and convertible securities.
- 3) **Project and Company Valuation:** In the third module, we develop the tools needed for valuing investment projects. We use several different valuation methods including the determination of the relevant cash flows and the appropriate discount rate. We will then use these tools to select investment projects and value companies.

**B. Administrative Structure**

Prerequisites:

- Managerial Finance (15.401) or equivalent and preferably some accounting (15.515 or 15.501/516).
- In particular, it is expected that students will be comfortable with the following topics from Managerial Finance: time value of money, risk-return trade-off, valuation of bonds and stocks, Capital Asset Pricing Model (CAPM). Students should also be familiar (or willing to Google a lot) accounting terms used in financial statements like EBIT, depreciation, PP&E, COGS, SGA, etc.

### Contact Information and Office Hours:

- Professor: Emil Verner
  - Email: [everner@mit.edu](mailto:everner@mit.edu)
  - Phone: (617) 253-2933
  - Office: E62-635
  - Office hours: To be announced
- Teaching Assistants:
  - Section A: David Sawyers ([sawyersd@mit.edu](mailto:sawyersd@mit.edu), office hours by appointment)
  - Section B: Ruhani Arya ([ruhani@mit.edu](mailto:ruhani@mit.edu), office hours by appointment)
- Course Assistant:
  - Jenn Alton ([jalton@mit.edu](mailto:jalton@mit.edu), 617-253-3386, E62-631)
  - The course assistant will be helping you with administrative matters such as waiting lists, etc.

### Schedule and Classroom:

- Section A: Mondays & Wednesdays 10:00-11:30 am (E51-057)
- Section B: Mondays & Wednesdays 1:00-2:30 pm (E51-395)

### Course Material:

- Course packet:
  - Contains the required case studies and some optional supplementary readings for the course.
  - Access the course packet through the Study.net link on Canvas, where you can also optionally order a printed copy from CopyTech.
- Course website:
  - Canvas: <https://mit.instructure.com/>
  - Make sure you have access to Canvas (contact the course assistant if you are unable to access Canvas).
  - Check Canvas at least once a week. All course announcements will be posted on Canvas.
- Textbooks (optional):
  - P. Asquith, L.A. Weiss, *Lessons in Corporate Finance*, 1<sup>st</sup> ed., Wiley.
  - R. Brealey, S.C. Myers, and F. Allen, *Principles of Corporate Finance*, any edition, McGraw-Hill.
  - R.C. Higgins, *Analysis for Financial Management*, any edition, McGraw-Hill.
- Additional material:
  - Handouts (slides) will be provided at the beginning of each class. Some of these slides contain gaps that we will fill out together in class.

### **C. Each-Class Procedure**

For each case, I will assign case questions posted on Canvas 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. I 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.

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. You should bring your name tag to each class (and make one if you're not a Sloan student) to facilitate discussion and receive credit for your remarks.

Computer spreadsheets can be used to analyze many of the case situations but they are not necessary. Spreadsheets are most valuable with repetitive capital budgeting decisions or when numerous “sensitivity” runs are desired for one decision. In class we will discuss finance techniques and highlight the key assumptions, but we will not generate numbers for every possible situation.

#### **D. First Class**

- No preparation is required for the first class.
- Bring your name tag and make sure you have access to Canvas and the cases through the Study.net link.

#### **E. Requirements and Grading**

- **Case Memoranda: 25%.**
  - Students should form teams of 1 to 4, and hand in a single write-up per team.
  - Talk to the TAs for help forming groups.
  - 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).
  - Write-ups due on Canvas at the beginning of the morning class (bring copies to refer to during class).
  - Write-ups will not be accepted after the class has met.
  - All write-ups are mandatory.
  - Each write-up is graded on a three-grade basis ( $\sqrt{+}/\sqrt{/}\sqrt{-}$ ).
  - Grading of homework will be on the basis of *clarity, effort, and internal consistency*, **not correctness**. The purpose of the homework is to ensure preparation before class and that you understand why one would care about that day’s material.
  - Use of prior semesters’ materials is expressly prohibited.
- **Final Exam: 60%.**
  - In-classroom exam during exam week (Dec 16-20). The date will be announced as soon as it is set by the Registrar’s Office.
  - The exam is open book: you can bring the course handouts, textbooks, cases, personal notes, as well as a calculator.
  - The final exam will mostly consist of two short fictional cases similar to ones we have worked through in class requiring you to demonstrate your mastery of the material.
  - The best way to prepare for the final exam is to prepare for the course every day, attend class, and actively participate. The entire course is cumulative.
- **Class Attendance and Participation: 15%.**
  - Because so much of the learning in this course occurs in the classroom, it is very important that you attend class and be prepared to discuss the cases.
  - The quality of your comments is more important than quantity. In the classroom and in life, people can generally tell when someone is talking just to be heard.
  - Arrive on time and stay for the entire class. Deviations will be noted.
  - Silence and put away electronic devices. Checking your phone not only interrupts your synthesis of our material but is also a negative externality on your classmates.
  - Cross-reference each other in our discussions: “to build on what \_\_\_ has just said...”
  - Refrain from sidebar conversations

## F. 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:

- **Sloan Values in the Classroom.**
  - Students are expected to arrive promptly on time and to stay for the entire class.
  - Faculty are expected to begin and end class on time.
  - Devices must not be used in the classroom without explicit faculty permission.
  - Students are expected to attend all classes.
- **The final exam cannot be rescheduled or made up.** Treat the exam date as you would an important meeting in the business world. Travel is not an acceptable reason for exam rescheduling. 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.
- **Re-grades.** The TAs and I 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 its grading, 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. I'm happy to help.
- **Recruiting.** MIT Sloan requires that students schedule campus interviews outside of scheduled class times and to make every attempt to schedule second round interviews and site visits outside of class times. It may well be worth it to miss class for a second-round interview, but these are not excused absences and may count against your participation grade.
- **Mental health.** At a minimum, we will all feel burned out at various times in our lives. Many will face mental health challenges themselves or with people close to them. Please attend to your mental health hygiene by making sleep a priority, finding a pursuit that helps you decompress in a healthy way, and finding confidantes to confide in. MIT has terrific resources for mental health, start here <https://medical.mit.edu/services/mental-health-counseling>.
- **Sexual harassment.** Both the Institute and Sloan in particular are committed to preventing and addressing sexual harassment. Recent events in the national news have highlighted the pervasiveness of the problem in a wide variety of environments. Commit now to draw bright lines for yourself about acceptable behavior. MIT's website on the subject (including definitions, policies, and reporting options) is [https://titleix.mit.edu/policies/sexual\\_misconduct](https://titleix.mit.edu/policies/sexual_misconduct).

### Course Outline (Summary)

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

Class #	Day	Date	Topic
1	Wednesday	4-Sept	Introduction
2	Monday	9-Sept	Case Study: Cartwright Lumber (Part I)
3	Wednesday	11-Sept	Case Study: Cartwright Lumber (Part II)
4	Monday	16-Sept	Case Study: Play Time Toys
5	Wednesday	18-Sept	Case Study: SureCut Shears
6	Monday	23-Sept	Lecture: Capital Structure (Part I)
7	Wednesday	25-Sept	Case Study: Massey Ferguson
8	Monday	30-Sept	Lecture: Capital Structure (Part II)
9	Wednesday	2-Oct	Case Study: Marriott
10	Monday	7-Oct	Lecture: Asymmetric Information and Agency Costs
11	Wednesday	9-Oct	Case Study: Intel
	Monday	14-Oct	<i>Columbus Day – No Class</i>
12	Wednesday	16-Oct	Case Study: Molycorp
	Monday	21-Oct	<i>Sloan Innovation Period --- No Class</i>
	Wednesday	23-Oct	<i>Sloan Innovation Period --- No Class</i>
13	Monday	28-Oct	Lecture: Valuation of Free Cash Flows
14	Wednesday	30-Oct	Case Study: Diamond Chemicals
15	Monday	4-Nov	Lecture: WACC and APV
16	Wednesday	6-Nov	WACC and APV / Harris Seafoods
	Monday	11-Nov	<i>Veteran's Day – No Class</i>
17	Wednesday	13-Nov	Case Study: Harris Seafoods
18	Monday	18-Nov	Case Study: Dixon
19	Wednesday	20-Nov	Case Study: Arundel (Real Options)
20	Monday	25-Nov	Lecture: Valuing a Company
	Wednesday	27-Nov	<i>Wednesday before Thanksgiving – No Class</i>
21	Monday	2-Dec	Case Study: Monmouth
22	Wednesday	4-Dec	Case Study: Southland
23	Monday	9-Dec	Corporate Governance
24	Wednesday	11-Dec	Review for Final

## **G. Course Outline (Detailed)**

### **Part I: Cash Flow Management**

#### **1 – 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”

#### **2 – Case Study: Cartwright 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”

#### **3 – Case Study: Cartwright Lumber Company (Part II)**

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

#### **4 – Case Study: Play Time Toy**

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

#### **5 – Case Study: SureCut Shears**

### **Part II: Financing**

#### **6 – 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”

#### **7 – Case Study: Massey-Ferguson**

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

#### **8 – Lecture: Capital Structure (Part II)**

#### **9 – Case Study: Marriott**

- Reading:
  - Asquith, Weiss, ch. 7: “Capital Structure Decisions”

- Asquith, Weiss, ch.8: “Investment Decisions”
- Brealey, Myers, Allen, ch. 24: “The Many Different Kinds of Debt”
- Barclay, Smith, Watts: “The Determinants of Corporate Leverage and Dividend Policies”

#### **10 – 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”

#### **11 – Case Study: Intel**

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

#### **12 – Case Study: Molycorp**

- 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”

### **Part III: Valuation**

#### **13 – 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”

#### **14 – Case Study: Diamond Chemicals (A)**

#### **15 – 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”

#### **16, 17 – Case Study: Harris Seafoods**

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

#### **18 – Case Study: Dixon Corporation**

#### **19 – Case Study: Arundel Partners (Real Options)**

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

#### **20 – Lecture: Valuing a Company**

- Reading:

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

### **21 – Case Study: Monmouth**

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

### **22 – Case Study: Southland Corporation**

- Reading:
  - Asquith, Weiss, ch. 17: “Leveraged Buyouts and Private Equity”
  - Brealey, Myers, Allen, ch. 32: “Corporate Restructuring”

### **23 – Corporate Governance**

- Reading:
  - Brealey, Myers, Allen, ch. 32: “Governance and Corporate Control around the World”
  - Gorbenko, Malenko, “Strategic and Financial Bidders in Takeover Auctions”

### **24 – Review for Final**

**Final Exam – during final exam week**