15.402 Corporate Finance  
Spring 2018

This introductory course in Corporate Finance takes as its viewpoint the CFO of a firm. 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) 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).
Contact Information and Office Hours:

- Professor: Christopher Palmer  
  - Email: cjpalmer@mit.edu  
  - Phone: (617) 324-3901  
  - Office: E62-639  
  - Office hours: Tuesdays 11:00 am – 12:00 pm or by appointment.
- Teaching Assistants:  
  - Section A: Taylor Higgins (Taylor.Higgins@sloan.mit.edu; office hours by appointment)  
  - Section B: Wilson Huang (wkhuang@mit.edu; office hours by appointment)
- Course Assistant:  
  - Jenn Alton (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 1:00-2:30 pm (E52-164)  
- Section B: Mondays & Wednesdays 2:30-4:00 pm (E52-164)

Course Material:

- 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):  
- 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.

C. Each-Class Procedure

For each case, I 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. 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.

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. You should bring your name tag to each class, to facilitate the discussion and receive appropriate 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, make sure you have access to Stellar, and obtain the course packet from http://www.study.net/mit.

E. Requirements and Grading

Case Memoranda: 25%.
- Students should form teams of 1 to 4, and hand in a single write-up per team.
- Follow the rules for writing write-ups (see above).
- Write-ups are due at the beginning of class (bring copies to refer to during the class).
- Write-ups will not be accepted after the class has met.
- Each team is required to hand in all write-ups.
- Each write-up is graded on a three-grade basis (√+/√/-).
- Grading of homework will be on the basis of effort and internal consistency, not correctness. My view is that if students can do the homework perfectly before class there is little reason to attend. The purpose of homework is to ensure preparation before class.
- Use of prior semesters’ materials is prohibited.

Final Exam: 60%.
- In-classroom exam during exam week (May 21-25). The Registrar will set the time by February 23.
- The exam is open book: you can bring the course handouts, textbooks, cases, personal notes, as well as a calculator.
- The best way to prepare for the final exam is to prepare for the course every day, attend class, and actively participate.

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.
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 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.

- **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 own 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](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 Stellar.

<table>
<thead>
<tr>
<th>Class #</th>
<th>Day</th>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>Wednesday</td>
<td>7-Feb</td>
<td>Introduction</td>
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<td>2</td>
<td>Monday</td>
<td>12-Feb</td>
<td>Case Study: Cartwright Lumber (Part I)</td>
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<td>3</td>
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<td>Case Study: Cartwright Lumber (Part II)</td>
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<td>Monday</td>
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<td>Presidents’ Day—No Class</td>
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<td><strong>Tuesday</strong></td>
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<td>Monday</td>
<td>26-Feb</td>
<td>Lecture: Capital Structure (Part I)</td>
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<td>Wednesday</td>
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<td>Case Study: Massey Ferguson</td>
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<td>Monday</td>
<td>5-Mar</td>
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<td></td>
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<td><em>Sloan Innovation Period --- No Class</em></td>
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<td><em>Sloan Innovation Period --- No Class</em></td>
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<td>Monday</td>
<td>26-Mar</td>
<td><em>Spring Vacation --- No Class</em></td>
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<td>14</td>
<td>Wednesday</td>
<td>28-Mar</td>
<td><em>Spring Vacation --- No Class</em></td>
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<td>15</td>
<td>Monday</td>
<td>2-Apr</td>
<td>Case Study: MCI</td>
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<td>16</td>
<td>Wednesday</td>
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<td>Lecture: Valuation of Free Cash Flows</td>
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<td>Case Study: Diamond Chemicals</td>
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<td>18</td>
<td>Wednesday</td>
<td>11-Apr</td>
<td>Lecture: WACC and APV</td>
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<td>Monday</td>
<td>16-Apr</td>
<td><em>Patriots Day --- No Class</em></td>
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<tr>
<td>19</td>
<td>Wednesday</td>
<td>18-Apr</td>
<td>WACC and APV / Harris Seafoods</td>
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<td>20</td>
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<td>Case Study: Harris Seafoods</td>
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<td>Case Study: Dixon</td>
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<td>Case Study: Arundel (Real Options)</td>
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<td>Lecture: Valuing a Company</td>
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<td>Monday</td>
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<td>Case Study: Monmouth</td>
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<td>Wednesday</td>
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<td>Case Study: Southland</td>
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<td>Monday</td>
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<td>Corporate Governance</td>
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<td>27</td>
<td>Wednesday</td>
<td>16-May</td>
<td>Review for Final</td>
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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: MCI

• Reading:
  - Brealey, Myers, Allen, ch. 15: “How Corporations Issue Securities”

Part III: Valuation

13 – Lecture: Valuation of Free Cash Flows

• Reading:
  - Higgins, ch. 7: “Discounted Cash Flow Techniques”

14 – Case Study: Diamond Chemicals (A)

15 – Lecture: WACC and APV

• Reading:
  - 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”

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