



ISE-413-010 — Asset Valuation

Instructor:	Boris Defourny	Term:	Spring 2018
Office:	Mohler Lab #327	Days:	Tuesday, Thursday
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1 Course Description

This course describes the methods used in the area of capital investment analysis to evaluate alternatives in a decision-making context. More specifically, this course develops practical tools for the valuation of assets, businesses, and companies. Among the three main approaches for valuation — intrinsic valuation, relative valuation (a.k.a. pricing), contingent claim valuation — the major part of the course is dedicated to intrinsic valuation, with the goal of understanding the parameters entering in discounted cash flow models, the risk factors, and the use of data to do business analytics.

2 References

The textbook for this class is

- Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset*, 3rd Edition, Wiley, Hoboken, NJ, USA, 2012.

If you buy it, note that the “University Edition” 3rd Edition of the textbook is the same as the 3rd Edition. A tremendous amount of online material related to valuation in general is made available by the author at www.damodaran.com.

For the fundamental principles of engineering economics we refer to

- D.G. Newnan, J.P. Lavelle, T.G. Eschenbach, *Engineering Economic Analysis*, 12th Edition, Oxford University Press, New York, NY, USA, 2013.



3 Prerequisites

There are no “hard” prerequisites for this class. We will review the fundamentals following your individual needs. Of course, prior training in any relevant field may increase appreciation.

4 Course Philosophy

We will work in partnership to help you to build skills in business analytics, using the many resources at our disposal. I will not know the answers to all your questions, but I should be good at indicating where the good sources are and managing your training program.

5 Course Goals

By the end of this course, students will be able to:

- Understand biases that accompany a valuation exercise.
- Understand the discounted cash flow valuation approach, the limitations of discounted cash flow valuation, and the role of relative valuation and contingent claim valuation.
- Analyze information from financial statements to understand the value of the existing assets of a company, how those assets were financed, how profitable they are, and how risky they are.
- Understand the notion of diversifiable and nondiversifiable risk, and be able to describe risk-return models such as the capital asset pricing model.
- Estimate a risk-free rate and understand default spreads.
- Estimate risk parameters for individual firms, the cost of equity, and the cost of debt.
- Derive the true earnings of the firm by adjusting the information from financial statements.
- Understand the role of taxes on valuation.
- Understand the reinvestment needs for future growth.
- Understand the approaches to estimate growth rates used to forecast future revenues and earnings.
- Quantify cash flows that can be sustained indefinitely.
- Estimate the liquidation value of a firm.
- Identify opportunities to provide data analysis tools addressing needs of business executives.

6 Course Site

Useful resources will be posted on **Course Site** (<https://coursesite.lehigh.edu/>), such as homework assignments, solutions, announcements, and important material. Important information, comments, corrections, and updates about the course will also be sent email via **Course Site**. Email is the official way of communication for this course, so be sure to check your email often. Please let me know if you do not receive mass-emails sent through **Course Site**.



7 Course Evaluation

The course evaluation is comprised of the following elements:

Class preparation & participation:	10%
Quizzes:	15%
Midterm:	20% date TBD (suggested: April 3)
Final project :	25%
Assignments:	30%

The weights are approximate, we reserve the right to change them later.

The following conversion table between numeric and letter grades is used for grading:

Numerical Grade (%)	≥93	≥88	≥83	≥78	≥74	≥68	≥62	≥55	≥50	≥45	≥40	≥0
Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F

7.1 Class preparation and participation

You are expected to participate in the discussions in class. Please read textbook material ahead of time. Immediately ask for clarifications when needed.

You will need to use Excel on your laptop, be sure you always have your laptop with you.

7.2 Quizzes, Midterm, Project

The quizzes and midterm will cover topics from material presented or discussed in class or assignments. Some assignments are designed to help you learn the material or challenge your understanding. Unless specified otherwise, the quizzes and midterm are open-book, open-notes.

The content of the midterm will be clarified in class. You will need to use Excel on your laptop, so be sure you have your laptop with you.

The project is the valuation of a company that you will pick. You will have to present in class.

7.3 Assignments

Assignments will be given on a regular basis. Use coursesite to upload your completed assignment in a single file or in a zip file containing your files and/or scans if you write certain things by hand. Never email assignments as attachment to me, email me to ask for an extension.

Collaboration: You can discuss assignments with others, but the collaboration must stop as soon as you start building your spreadsheet or doing your calculations. You also have to write up your report on your own.



7.4 Software

We use Excel because this is the software used in the field, thus it is convenient for interacting with others. Excel is easy to learn. One of the benefit of a spreadsheet software is that you can easily control the correctness of work made by others. When you create a spreadsheet, keep it simple and explicit, for the purpose of letting others (including yourself in one month) verify the work.

7.5 Data

We access data from S&P Capital IQ. To locate this library resource, go to <http://libraryguides.lehigh.edu/az.php?a=s> and select S&P Capital IQ, which will bring you to the S&P Capital IQ webpage. Then bookmark it. You may need to be on campus or VPN to access the resource.

8 Schedule

The following schedule is tentative, we reserve the right to change it.

Week of	Topics	Readings Damodaran
1/23	Introduction to valuation	Ch. 1
1/30	Approaches to valuation	Ch. 2
2/6	Understanding financial statements	Ch. 3
2/13	The basics of risk	Ch. 4
2/20	Riskless rates and risk premiums	Ch. 7
2/27	Estimating risk parameters and costs of financing	Ch. 8
3/6	Measuring earnings	Ch. 9
3/13	—	<i>Spring break</i>
3/20	From earning to cash flows	Ch. 10
3/27	Estimating growth	Ch. 11
4/3	Estimating terminal value	Ch. 12
4/10	Estimating Equity value per share	Ch. 16
4/17	Dividend discount models	Ch. 13
4/24	Free cash flow to equity discount models	Ch. 14
5/1	Cost of capital and adjusted present value approaches	Ch. 15

9 Policies for the course

9.1 Principles of Equitable Community

Lehigh University endorses The Principles of our Equitable Community, see <http://www4.lehigh.edu/diversity/principles>

We expect each member of this class to acknowledge and practice these Principles. Respect for each other and for differing viewpoints is a vital component of the learning environment inside and outside the classroom.



9.2 Missed Midterm

In case of medical or other acceptable reasons, please inform your instructor (once you are safe) and follow the normal procedures for obtaining an Absence Information Report through the Associate Dean of Students Office (U.C. Room 210). Upon receipt of the report, we will arrange the details for a make-up.

9.3 Electronic Devices

You are allowed to use your laptop during class but for the purpose of this course only.

As a general rule, you have to ask permission in advance from everyone in the classroom to make audio or video recordings. Contact me in advance if you want to discuss this topic.

9.4 Accommodations for Students with Disabilities

If you have a disability for which you are or may be requesting accommodations, please contact both your instructor and the Office of Academic Support Services, University Center C212 (610-758-4152) as early as possible in the semester. You must have documentation from the Academic Support Services office before accommodations can be granted.

9.5 Auditing

You will need to register to attend this class.

9.6 Academic Integrity

Please consult the material about Academic Integrity available in Course Site. There are many forms of irresponsible behavior that can ruin opportunities for you or for others in this course; there is no room and no excuse for bad behavior. Examples of irresponsible behavior cover a wide range, and include cheating, plagiarism, creating hazards or disruptions, slacking on responsibilities, unfairly exploiting the efforts of others, etc. Further explanation and guidelines on academic integrity at Lehigh can be found on the University Student Conduct System web page <http://www.lehigh.edu/~indost/conduct/>, and on the Fostering Academic Integrity at Lehigh University web site <http://www.lehigh.edu/~infkli/AcademicIntegrity.htm>. It is firm policy in this course that cheating or plagiarism are unacceptable violations of academic integrity, and will earn an F as the semester grade in the course. Please meet requirements in good spirit, and do your part in advance of deadlines. For example, do not copy data or sections of homework reports from students currently or previously enrolled. While students are encouraged to discuss homework problems together, the final solution should be obtained independently, and the writing of the homework report is an individual responsibility. . . do not ask for other student's work, and do not share yours with others. Various forms of carelessness or disregard for safety considerations, abuse of others, compromising opportunities for others, failing to participate in good faith, etc., can also have serious consequences. Appropriate penalties should be expected. Offenders may lose points from their course totals, and serious offenders may be dropped from the course.



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9.7 Other Relevant University Policies

Religious Holidays: <http://www.lehigh.edu/~incha/holidays.html>

Lehigh Computer Usage: <http://www.lehigh.edu/security/computepolicy.html>