



ISE-413-010 — Asset Valuation

Instructor:	Boris Defourny	Term:	Spring 2020
Office:	Mohler Lab #327	Days:	Tuesday, Thursday
Phone:	(610) 758-4250	Time:	9:20am - 10:35am
Email:	defourny@lehigh.edu	Room:	Mohler Lab #451
Office hours:	Tue 10:45-11:45am or by appointment.	Web page:	https://coursesite.lehigh.edu/

1 Course Description

Methods used in the area of capital investment analysis to evaluate alternatives in a decision-making context. Practical tools for the valuation of assets, businesses, and companies. Intrinsic valuation, with the goal of understanding the parameters entering in discounted cash flow models, the risk factors, and calibrating the parameters from market data. Introduction to relative valuation (a.k.a. pricing), multiples, relation to intrinsic valuation; contingent claim valuation.

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.

The “University Edition” 3rd Edition of the textbook is the same as the 3rd Edition, thus it can equivalently be purchased. 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. The fundamentals will be reviewed following your individual needs, while prior training in any relevant field may increase appreciation of the class.



4 Course Philosophy

The goal is 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 will help you locate good sources for data and insights.

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.
- Be familiar with subscription data (available via Lehigh) and publicly available data sources.

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 20%, Assignments 40%, Final project 40%. 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 should actively participate in class. To get more confidence on the material, you can read the textbook material ahead of time. Do not hesitate to interrupt your instructor to ask for clarifications. Use your instructor's office hours as a supplementary resource.

You will need to use Excel on your laptop and access online data during class. Therefore, bring your laptop to class.

7.2 Assignments and Project

The assignments will cover topics from the material presented and discussed in class. Assignments are designed to help you learn the material, challenge your understanding, or simply become familiar with the language of the field. Assignments will be given on a regular basis. Always use coursesite to upload your completed assignment. For most assignments the deliverable is an Excel spreadsheet. Please never email assignments as attachment to me, always submit to coursesite. If you need to ask for an extension please email me before the due date.

Collaboration: You can discuss assignments with others, but the collaboration must stop as soon as you start building your spreadsheet or doing your calculations.

The project is the valuation of a company of your choice, and presentation of your valuation in class.

7.3 Software

We use Excel which is a standard software used in the field and 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.

7.4 Data

We access data using Lehigh University's subscription to S&P Capital IQ. To locate this library resource, go to <https://libraryguides.lehigh.edu/az.php?a=s> and select S&P NetAdvantage, which will bring you to the S&P Capital IQ webpage. Bookmark it. You may need to be on campus or use VPN to access this resource.



8 Schedule

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

Week of	Topics	Readings Damodaran
1/21	Introduction to valuation	Ch. 1
1/28	Approaches to valuation	Ch. 2
2/4	Understanding financial statements	Ch. 3
2/11	The basics of risk	Ch. 4
2/18	Riskless rates and risk premiums	Ch. 7
2/25	Estimating risk parameters and costs of financing	Ch. 8
3/3	Measuring earnings	Ch. 9
3/10	—	<i>Spring break</i>
3/17	From earning to cash flows	Ch. 10
3/24	Estimating growth	Ch. 11
3/31	Estimating terminal value	Ch. 12
4/7	Estimating Equity value per share	Ch. 16
4/14	Dividend discount models	Ch. 13
4/21	Free cash flow to equity discount models	Ch. 14
4/28	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://www.lehigh.edu/~inprv/initiatives/PrinciplesEquity_Sheet_v2_032212.pdf. 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 General policy for missed midterms and exams

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, the details for a make-up can be arranged.

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

Lehigh University is committed to maintaining an equitable and inclusive community and welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact Disability Support Services (DSS), provide documentation, and participate in an interactive review process. If the documentation supports a request for reasonable accommodations, DSS will provide students with a Letter of Accommodations. Students who are approved for accommodations at Lehigh should share this letter and discuss their accommodations and learning needs with instructors as early in the semester as possible. For more information or to request services, please contact Disability Support Services in person in Williams Hall, Suite 301, via phone at 610-758-4152, via email at indss@lehigh.edu, or online at <https://studentaffairs.lehigh.edu/disabilities>.

9.5 Auditing

You need to be registered to attend this class, auditing is limited to the first week or two of the semester.

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 and on the Fostering Academic Integrity at Lehigh University web site, see <https://studentaffairs.lehigh.edu/content/academic-integrity-resources>. 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. 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.

9.7 Other Relevant University Policies

Religious Holidays: <https://chaplain.lehigh.edu/node/6>

Lehigh Computer Security: <https://lts.lehigh.edu/services/security>

Lehigh Computer Policies: <https://lts.lehigh.edu/services/library-computing-policies>