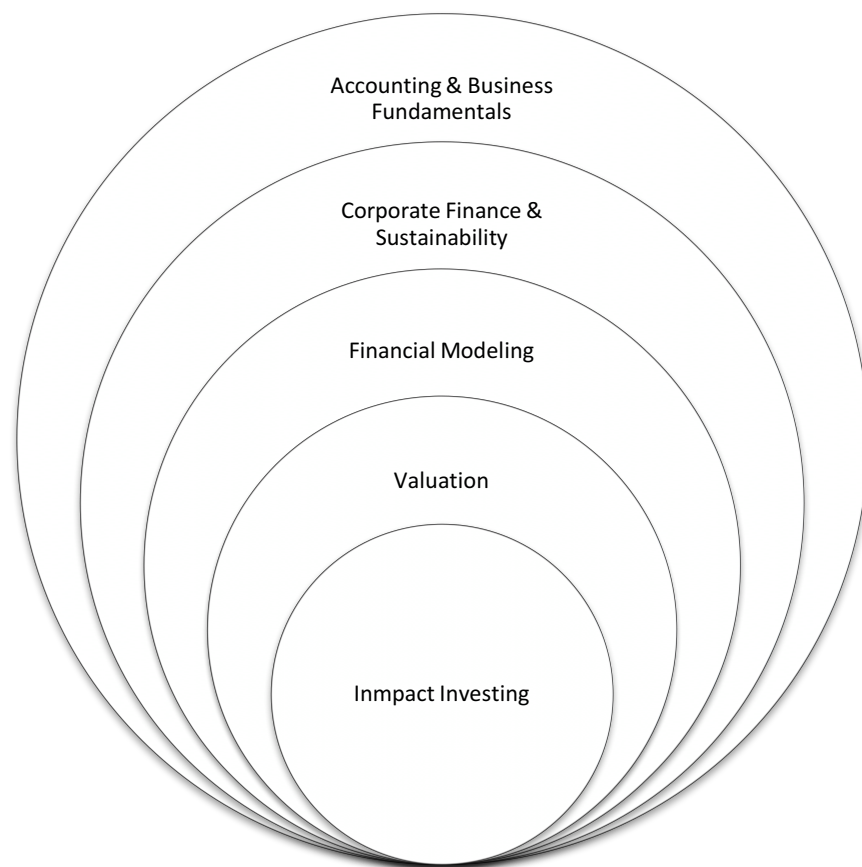


SUMA PS5195 - Accounting, Finance, and Modeling of Sustainable Investments

Professor: Brad Schwartz

1. Course Context and Overview

This course is designed to provide students with working knowledge on how to make successful investments in sustainable companies. It starts with a strong foundation in accounting and corporate finance, then moves on to ESG (“Environmental, Social & Governance”)/Impact screening of potential investments, along with valuation techniques used to arrive at a purchase price. It will explore financial models that can aggregate multiple variables used to drive investment decisions.



To understand and lead a transition to a sustainability-aware business, managers must first be familiar with the terminology, practices and consequences of traditional accounting and finance. Students will learn traditional financial and accounting methods and tools. We will examine how these methods and tools are changing to improve product and service design, resource efficiency and allocation, employee productivity and sustainability performance outcomes. Throughout, students will examine sustainability system frameworks. Students will learn how value is created in a company and the different methods employed to create that value, conduct due diligence, discuss optimal capital structure to finance a transaction, execute a transaction, and implement a Sustainability-based value added operating plan to the target company. The

course will conclude with students preparing a persuasive investment memo and accompanying financial model to the investment committee of an impact investing asset management firm. The course also provides a practical introduction to selected non-financial accounting topics including sustainability reporting standards, ESG corporate performance indicators and corporate social responsibility.

2. Course Objectives

Students are assumed to have little-to-no previous exposure to accounting or finance. By the end of the course, students should be able to:

- Read traditional financial reports and be able to understand and critically interpret them with an emphasis on balance sheet, income statement and cash flow statement financial information.
- Understand financial and sustainability reporting standards, as well as initiatives to improve them.
- Calculate appropriate performance ratios and complement those with non-financial sustainability performance measures.
- Become familiar with corporate finance concepts, valuation, and risk management.
- Develop financially quantifiable and sustainability-aligned financial models and an investment thesis.
- Develop Basic to intermediate Excel Skills
- Understand the life-cycle and execution of an impact-oriented investment.

3. Required Texts & Materials

- A. Financial Intelligence: A Manager's Guide to Knowing What the Numbers Really Mean, Karen Berman & Joe Knight
 - https://www.amazon.com/Financial-Intelligence-Managers-Knowing-Numbers/dp/1591397642/ref=sr_1_5?s=books&ie=UTF8&qid=1529696276&sr=1-5&keywords=financial+intelligence
- B. The New Sustainability Advantage, Bob Willard
 - https://www.amazon.com/New-Sustainability-Advantage-Business-Benefits-ebook/dp/B007SNHORY/ref=sr_1_1?s=digital-text&ie=UTF8&qid=1529587310&sr=1-1&keywords=the+sustainability+advantage
- C. HBR Guide to buying a small business: Think Big, Buy Small, Own your own Company, Richard S. Ruback
 - https://www.amazon.com/HBR-Guide-Buying-Small-Business/dp/1633692507/ref=sr_1_1?s=books&ie=UTF8&qid=1529696378&sr=1-1&keywords=hbr+guide+to+buying+a+small+business

Additional articles and resources will be provided on the course website.

*****Please bring a laptop to class that has Excel so you can work along with the professor.**

4. Toolbox

The following texts are not required for the course but, in addition to the required texts above, are a set of reference material you might want to add to your professional toolbox.

- The goal: A process of ongoing improvement
https://www.amazon.com/Goal-Process-Ongoing-Improvement-ebook/dp/B002LHRM2O/ref=sr_1_1?s=books&ie=UTF8&qid=1530211329&sr=1-1&keywords=the+goal
- Managing the Small to Mid-Sized Company, Jim Collins
https://www.amazon.com/Managing-Small-Midsized-Company-Concept/dp/0256142807/ref=olp_product_details?_encoding=UTF8&me
- The CFO Guidebook, Steven M. Bragg
 - https://www.amazon.com/CFO-Guidebook-Steven-M-Bragg/dp/1938910397/ref=asap_bc?ie=UTF8
- Building Financial Models, John Tjia
 - https://www.amazon.com/Building-Financial-McGraw-Hill-Finance-Investing/dp/0071608893/ref=sr_1_2?s=books&ie=UTF8&qid=1529696744&sr=1-2&keywords=building+financial+models
- Due Diligence: Planning, Questions, Issues, Gordon Bing
 - https://www.amazon.com/Due-Diligence-Planning-Questions-Issues/dp/0313345406/ref=sr_1_2?s=books&ie=UTF8&qid=1529697020&sr=1-2&keywords=due+diligence+BING
- Investment Banking: Valuation, Leveraged Buyouts, and Mergers and Acquisitions, Joshua Rosenbaum
 - https://www.amazon.com/Investment-Banking-Valuation-Leveraged-Acquisitions/dp/1118656210/ref=sr_1_1?s=books&ie=UTF8&qid=1529697197&sr=1-1&keywords=investment+banking
- Valuation, McKinsey & Company, Tim Koller
 - https://www.amazon.com/Valuation-Measuring-Managing-Companies-Finance/dp/111887370X/ref=sr_1_1?s=books&ie=UTF8&qid=1529697646&sr=1-1&keywords=mckinsey+valuation
- Business Ratios and Formulas
 - https://www.amazon.com/Business-Ratios-Formulas-Comprehensive-Guide/dp/1118169964/ref=sr_1_2?s=books&ie=UTF8&qid=1529697281&sr=1-2&keywords=business+ratios+and+formulas+a+comprehensive+guide
- Double your Profits in 6 months or less, Bob Fifer
 - https://www.amazon.com/Double-Your-Profits-Months-Less/dp/088730740X/ref=sr_1_1?s=books&ie=UTF8&qid=1529697251&sr=1-1&keywords=double+your+profits+in+six+months+or+less
- Investment Valuation: Tools and Techniques for Determining the Value of any Asset, Aswath Damodaran
 - https://www.amazon.com/Investment-Valuation-Techniques-Determining-University/dp/1118130731/ref=sr_1_1?s=books&ie=UTF8&qid=1529696473&sr=1-1&keywords=investment+valuation+damodaran+3rd+edition

5. Course Activities and Assignments

Readings:

Each week, before the evening lectures, students are expected to complete readings from core texts and resources posted to the course website. Previewing the foundational concepts is essential in helping to understand core lecture materials, will enrich student participation during class and will help with successfully completing course assignments.

Projects:

There are three class projects. The grade weighting on each project is listed below.

Project 1: Problem Sets & Financial Statements

For this project you will be asked to complete mathematical problem sets and qualitatively discuss the results in short paragraph form. You will also be given a sustainability-focused private company whose CFO has suddenly left the firm. You, playing the role of Controller, will be responsible for closing the books, producing a set of financial statements [balance sheet, income statement, cash flow statement], and providing the relevant key performance indicators (KPIs) in a financial package to be submitted to the Board of the Company. This will also include a single page summary of the performance for the year.

Project 2: Problem Sets & ESG Screened Public Company Valuation

For this project you will answer problem sets focused on financial concepts, (such as the time value of money), some of which will require a short paragraph of qualitative discussion. In addition, you will be asked to value a public company chosen by the professor that ranks high on the ESG scoring criteria. Playing the role of CFO, you will make a recommendation to the CEO based on your valuation analysis to either use excess cash to buyback stock of the company or return it to shareholders in the form of a dividend.

Project 3: Investment Committee Recommendation & Financial Model

Acting as an Investment Analyst, you will choose a public company screened for sustainability and develop an investment memo for an Impact Investing Private Equity firm to take that target company private. You will develop a detailed sustainability-aligned financial model and document the assumptions made to project future returns of the investment. You will also discuss the market, the opportunity, the impact initiatives to drive value, and risks involved in the investment, as well as formulate an exit strategy. The investment memo should be between 5 and 10 pages long and should entail a cohesive investment thesis.

6. Evaluation and Grading

Specific grading criteria (rubrics) are posted on the course site for each project assignment described above. We will grade your work with the stated criteria in mind, on a 100-point scale. We strive to finish grading your assignments in about two weeks after their due date. Website and email announcements are used to let you know when to check the website and/or gradebook.

Projects:	Task:	Grade%
1	Problem Sets & Financial Statements	20%
2	Problem Sets & ESG Screened Public Company Valuation	30%
3	Investment Committee Recommendation & Financial Model	40%
4	Participation	10%

Grade	Range:	Grade	Range:
A+	98-100	C+	77-79.5
A	93-97.5	C	73-76.5
A-	90-92.5	C-	70-72.5
B+	87-89.5	D	60-69.5
B	83-86.5	F	0-59.5
B-	80-82.5		

7. Course Policies

Attendance

Regular attendance is required. Occasional absences are granted for work or personal conflicts with prior notice when possible or at the Professor's discretion if no notice is given. Students are expected to have done the readings and project assignments for each class prior to the start of the class.

Participation

Participation in class is required. Your participation matters and enhances the quality of the class experience for yourself and others. This involves making relevant, useful and non-obvious comments in class, or posing pertinent questions, in clear and succinct language.

Late work

All assignments must be submitted on the published due dates. Deadlines are important! Without a compelling excuse and pre-approval from the Professor before the due date, 10 points will be deducted from project assignment scores for each week that you are late in submitting it.

8. School Policies

Academic Integrity

All work is expected to be original either from team effort or individual design; cheating and plagiarism will not be tolerated. Columbia University expects that its students will act with honesty and propriety at all times and will respect the rights of others. It is fundamental University policy that academic dishonesty in any guise or personal conduct of any sort that disrupts the life of the University or denigrates or endangers members of the University community is unacceptable and will be dealt with severely. It is essential to the academic integrity and vitality of this community that individuals do their own work and properly acknowledge the circumstances, ideas, sources and assistance upon which that work is based.

Academic honesty is expected of all students at all times. Columbia University holds each member of its community responsible for understanding and abiding by the Academic Integrity and Community Standards, which can be found at <http://sps.columbia.edu/node/217>. You are required to read these standards within the first few days of class. Ignorance of the School's policy concerning academic dishonesty shall not be a defense in any disciplinary proceedings.

Accessibility

Columbia is committed to providing equal access to qualified students with documented disabilities. A student's disability status and reasonable accommodations are individually determined based upon disability documentation and related information gathered through the intake process.

For more information regarding this service, please visit the University's Health Services website: <https://health.columbia.edu/content/all-services>

Copyright

Due to copyright restrictions, online access to this material is limited to instructors and students currently registered for this course. Please be advised that by clicking the link to the electronic materials in this course, you have read and accept the following:

"The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted materials. Under certain conditions specified in the law, libraries and archives are authorized to furnish a photocopy or other reproduction.

One of these specified conditions is that the photocopy or reproduction is not to be "used for any purpose other than private study, scholarship, or research." If a user makes a request for, or later uses, a photocopy or reproduction for purposes in excess of "fair use," that user may be liable for copyright infringement."

1. 9/5/18	<ul style="list-style-type: none"> • Introduction • Fundamentals of Business Accounting & Finance 	Text A. Chapters 1-8	Watch: Ray Dalio's How the Economic Machine works https://www.youtube.com/watch?v=PHe0bXAluk0&t=373s How to Create Profit Like Warren Buffett https://www.youtube.com/watch?v=QMX6neaye4g&t=757s
2. 9/12/18	<ul style="list-style-type: none"> • Accounting Part I <ul style="list-style-type: none"> ○ Accounting Theory ○ Balance Sheet 	Text A. Chapters 9-13	
3. 9/19/18	<ul style="list-style-type: none"> • Accounting Part II <ul style="list-style-type: none"> ○ Income Statement ○ Cash Flow Statement 	Text A. Chapters 14-18	
4. 9/26/18	<ul style="list-style-type: none"> • Financial Statement Analysis & Performance Measurement 	Text A. Chapters 19-25	
5. 10/3/18	<ul style="list-style-type: none"> • Corporate Finance Part I <ul style="list-style-type: none"> ○ Time value of Money ○ Risk Management ○ Capital Budgeting 	Text B. Introduction and Benefit 1	Project 1 Due
6. 10/10/18	<ul style="list-style-type: none"> • Corporate Finance Part II <ul style="list-style-type: none"> ○ Capital Structure ○ Financing & Resource allocation ○ Working Capital 	Text B. Benefit 2 - 3	

7. 10/17/18	<ul style="list-style-type: none"> Sustainability Measurement 	Text B. Benefit 4-5	Read: https://financial.thomsonreuters.com/content/dam/openweb/documents/pdf/financial/esg-scores-methodology.pdf
8. 10/24/18	<ul style="list-style-type: none"> Valuation Part I <ul style="list-style-type: none"> Fundamentals Forces driving value 	Text B. Benefit 6	
9. 10/31/18	<ul style="list-style-type: none"> Valuation Part II <ul style="list-style-type: none"> Discounted Cash Flow Market Multiples Recent Transactions 	Text B. Benefit 7 & Conclusion	
10. 11/7/18	<ul style="list-style-type: none"> Financial Modeling Part I <ul style="list-style-type: none"> Excel Setup Modeling Basics Assumptions 	Text C. Part I	Project 2 due
11. 11/14/18	<ul style="list-style-type: none"> Financial Modeling Part II <ul style="list-style-type: none"> Outputs Returns Analysis 	Text C. Part 2	
11/21/18 No Class for Thanksgiving Holiday			
12. 11/28/18	<ul style="list-style-type: none"> Mergers & Acquisitions 	Text C Parts 3 & 4	
13. 12/5/18	<ul style="list-style-type: none"> Impact Investing 	Text C. Part 5 & Conclusion	Project 3 due 12/12/18

9. Course Schedule (Schedule subject to adjustment during the semester.)