SUMA 5195: Accounting, Finance, and Modeling of Sustainable Investments

Schedule

Dates: 1/17-4/24  
Time: Wednesdays, 6:10pm - 8:00pm EST  
Place: Fairchild 601

Credits

3

Contact Information

Instructor: Brad Schwartz

Email  bs3169@columbia.edu  
Phone  914-806-1583  
Office Hours  By Appointment  
Response Policy  I usually respond within 24 hours to emails and discussion board inquiries.  

See Course Info TAB for Teaching Assistant(s)

Course Overview

This course is designed to provide students with working knowledge on how to make successful investments in sustainable companies and to prepare students to be conversationally literate in financial reporting. As you leave the school and become leaders of organizations financial literacy will be a skill set that will be vital to success no matter what career path you go down. It starts with a strong foundation in accounting and corporate finance, then moves on to ESG/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. 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 report (CSR Reporting).

Learning 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:

L1 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.

L2 Understand financial and sustainability reporting standards, as well as initiatives to improve them.

L3 Calculate appropriate performance ratios and complement those with non-financial sustainability performance measures.
L4 Become familiar with corporate finance concepts, valuation, and risk management.
L5 Develop financially quantifiable and sustainability-aligned financial models and an investment thesis.
L6 Develop Basic to intermediate Excel Skills
L7 Understand the lifecycle and execution of an impact-oriented investment.

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.

*Additional articles and resources will be provided in the course modules.

**Required:**


This book is also available in ebook form [here](https://clio.columbia.edu/catalog/14935347?counter=1) through Columbia libraries.

HBR Guide to buying a small business: Think Big, Buy Small, Own Your Own Company [HERE](https://www.amazon.com/gp/product/B01KP33K4Y/ref=dbs_a_def_rwt_hsch_vapi_tkin_p1_i0). Richard S. Ruback

This book is also available in ebook form [here](https://clio.columbia.edu/catalog/14886984?counter=1) through Columbia libraries.

**Recommended:**

Green to Gold: How Smart Companies Use Environmental Strategy to Innovate, Create Value, and Build Competitive Advantage [HERE](https://www.amazon.com/Green-Gold-Companies-Environmental-Competitive/dp/0470393742/ref=sr_1_2?dchild=1&qid=1601319280&refinements=p_27%3ADaniel+C.+Esty&s=books&sr=1-2&text=Daniel+C.+Esty). Daniel Esty & Andrew Winston
The following texts are not required for the course but, in addition to the texts above, are a set of reference material you might want to add to your professional toolbox.

- **The goal: A process of ongoing improvement** ([link](https://www.amazon.com/Goal-Process-Ongoing-Improvement-ebook/dp/B002LHRM2O/ref=sr_1_1?ie=UTF8&qid=1530211329&sr=1-1&keywords=the+goal)).
- **Managing the Small to Mid-Sized Company, Jim Collins** ([link](https://www.amazon.com/Managing-Small-Midsized-Company-Concept/dp/0256142807/ref=olp_product_details?_encoding=UTF8&me)).
- **The CFO Guidebook, Steven M. Bragg** ([link](https://www.amazon.com/CFO-Guidebook-Steven-M-Bragg/dp/1938910397/ref=asap_bc?ie=UTF8)).
- **Due Diligence: Planning, Questions, Issues, Gordon Bing** ([link](https://www.amazon.com/Due-Diligence-Planning-Questions-Issues/dp/0313345406/ref=sr_1_2?ie=UTF8&qid=1529697020&sr=1-2&keywords=due+diligence+BING)).
- **Investment Banking: Valuation, Leveraged Buyouts, and Mergers and Acquisitions, Joshua Rosenbaum** ([link](https://www.amazon.com/Investment-Banking-Valuation-Leveraged-Acquisitions/dp/1118656210/ref=sr_1_1?ie=UTF8&qid=1529697197&sr=1-1&keywords=investment+banking)).
- **Business Ratios and Formulas** ([link](https://www.amazon.com/Business-Ratios-Formulas-Comprehensive-Guide/dp/1118169964/ref=sr_1_2?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?keywords=double+your+profits+in+six+months+or+less](https://www.amazon.com/Double-Your-Profits-Months-Less/dp/088730740X/ref=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 Damodoran**

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**Resources**

**Columbia University Information Technology**

[Columbia University Information Technology](https://cuit.columbia.edu) (CUIT) provides Columbia University students, faculty and staff with central computing and communications services. Students, faculty and staff may access [University-provided and discounted software downloads](https://columbiait.onthehub.com).

**Columbia University Library**

[Columbia's extensive library system](https://library.columbia.edu) ranks in the top five academic libraries in the nation, with many of its services and resources available online.

**SPS Academic Resources**

[The Office of Student Affairs](http://sps.columbia.edu/students/student-services/academic-resources) provides students with academic counseling and support services such as online tutoring and career coaching.

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**The Writing Center**

The Writing Center provides writing support to undergraduate and graduate students through one-on-one consultations and workshops. They provide support at every stage of your writing, from brainstorming to final drafts. If you would like writing support, please visit the following site to learn about services offered and steps for scheduling an appointment. This resource is open to Columbia graduate students at no additional charge.


**Career Design Lab**

The Career Design Lab supports current students and alumni with individualized career coaching including career assessment, resume & cover letter writing, agile internship job search strategy, personal branding, interview skills, career transitions, salary negotiations, and much more. Wherever you are in your career journey, the Career Design Lab team is here to support you. Link to [https://careerdesignlab.sps.columbia.edu](https://careerdesignlab.sps.columbia.edu)

**Netiquette**
Only applies to this course when using online platforms

Online sessions in this course will be offered through Zoom, accessible through Canvas. A reliable Internet connection and functioning webcam and microphone are required. It is your responsibility to resolve any known technical issues prior to class. Your webcam should remain turned on for the duration of each class, and you should expect to be present the entire time. Avoid distractions and maintain professional etiquette. Please note: Instructors may use Canvas or Zoom analytics in evaluating your online participation. More guidance can be found at https://jolt.merlot.org/vol6no1/mintu-wimsatt_0310.htm

Netiquette is a way of defining professionalism for collaborations and communication that take place in online environments. Here are some Student Guidelines for this class:

- Avoid using offensive language or language that is not appropriate for a professional setting.
- Do not criticize or mock someone’s abilities or skills.
- Communicate in a way that is clear, accurate and easy for others to understand.
- Balance collegiality with academic honesty.
- Keep an open-mind and be willing to express your opinion.
- Reflect on your statements and how they might impact others.
- Do not hesitate to ask for feedback.
- When in doubt, always check with your instructor for clarification.

Course Requirements (Assignments)

There are three individual assignments, one group presentation and one group assignment. The grade weighting on each assignment is listed below.

**Multiple Choice Exam & Preparation of Financial Statements (L1, L2, L3) (20% of Final Grade)**

For this assignment you will be asked to complete a problem set online to test your knowledge of accounting. 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.
**Multiple Choice Exam & ESG Screened Company Valuation (L4) (25% of Final Grade)**

For this assignment you will answer problem sets focused on financial concepts, (such as the time value of money). In addition, you will be asked to value a 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, in the form of an "email", based on your valuation analysis to either use excess cash to buy back stock of the company or return it to shareholders in the form of a dividend.

**Group Presentation (L1-L5) (15% of Final Grade)**

Acting as an Investment Analyst, you will choose a target company screened for sustainability and discuss the company, its results and footprint, and an investment thesis and recommend to an investment committee to allocate resources to pursue the deal. You will have to deliver a simple PowerPoint presentation of 5 minutes.

**Group Investment Committee Recommendation & Financial Model (L5-L7) (30% of Final Grade)**

Choosing the company screened for sustainability in the group presentation, develop an investment memo for an Impact Investing Private Equity firm. You will develop a sustainability-aligned financial model and document the assumptions made to 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.

**Class Participation (10% of Final Grade)**

Your individual contributions to the class discussion are vital. You are expected to attend and participate in class. You may also for points, post relevant articles/topics you come across to Canvas during the semester to foster discussion out of class.

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**Evaluation / Grading**

Specific grading criteria rubrics will be used for each assignment described above. We will grade your work 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.

The final grade will be calculated as described below:
### GRADE CALCULATION

<table>
<thead>
<tr>
<th>ASSIGNMENT</th>
<th>WEIGHT</th>
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<tbody>
<tr>
<td>MC Exam &amp; Financial Statements</td>
<td>20 %</td>
</tr>
<tr>
<td>MC Exam &amp; ESG Screened Company Valuation</td>
<td>25 %</td>
</tr>
<tr>
<td>Group Presentation</td>
<td>15 %</td>
</tr>
<tr>
<td>Group Investment Committee Recommendation &amp; Financial Model</td>
<td>30 %</td>
</tr>
<tr>
<td>Participation</td>
<td>10 %</td>
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</table>

### FINAL GRADING SCALE

<table>
<thead>
<tr>
<th>GRADE</th>
<th>PERCENTAGE</th>
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<tbody>
<tr>
<td>A+</td>
<td>98–100 %</td>
</tr>
<tr>
<td>A</td>
<td>93–97.99 %</td>
</tr>
<tr>
<td>A-</td>
<td>90–92.99 %</td>
</tr>
<tr>
<td>B+</td>
<td>87–89.99%</td>
</tr>
<tr>
<td>B</td>
<td>83–86.99 %</td>
</tr>
<tr>
<td>B-</td>
<td>80–82.99 %</td>
</tr>
<tr>
<td>C+</td>
<td>77–79.99 %</td>
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<tr>
<td>C</td>
<td>73–76.99 %</td>
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<tr>
<td>C-</td>
<td>70–72.99 %</td>
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<td>D</td>
<td>60–69.99 %</td>
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<td>F</td>
<td>59.99 % and below</td>
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### Course Policies

Participation and Attendance
You are expected to complete all assigned readings, attend all class sessions, and engage with others in online discussions. Your participation will require that you answer questions, defend your point of view, and challenge the point of view of others. If you need to miss a class for any reason, please discuss the absence with me in advance. Participation matters and enhances the quality of the class experience for yourself and others. This involves making relevant and useful comments in class, or posing pertinent questions, in clear and succinct language.

I will keep track of attendance and look forward to an interesting, lively and confidential discussion. If you miss an experience in class, you miss an important learning moment and the class misses your contribution. More than one absence will affect your grade.

Late Work

All assignments must be submitted on the published due dates. Deadlines are important! Work that is not submitted on the due date noted in the course syllabus without advance notice and permission from the instructor will be graded down 1/3 of a grade for every day it is late (e.g., from a B+ to a B).

Citation & Submission

All written assignments must use standard citation format (e.g., MLA, APA, Chicago), cite sources, and be submitted to the course website (not via email).

School Policies

Copyright Policy

Please note—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.

Academic Integrity

Columbia University expects its students to act with honesty and propriety at all times and to 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 in class assignments and exams is expected of all students at all times.

SPS holds each member of its community responsible for understanding and abiding by the [SPS Academic Integrity and Community Standards](http://sps.columbia.edu/students/student-services/academic-integrity-community-standards). 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/services/ods/support](https://health.columbia.edu/services/ods/support).

I want you to succeed in this course. Contact disability@columbia.edu for learning accommodations.

**Names/Pronouns**

You deserve to be addressed in a manner that reflects your identity. You are welcome to tell me your pronoun(s) and/or name (if different from University records) at any time, either in person or via email.

**Diversity Statement**

It is our intent that students from all diverse backgrounds and perspectives be well-served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that the students bring to this class be viewed as a resource, strength and benefit. It is our intent to present materials and activities that are respectful of diversity: gender identity, sexuality, disability, age, socioeconomic status, ethnicity, race, nationality, religion, and culture.

**Discrimination**

We embrace the diversity of gender, gender identity & expression, sex, sexual orientation, race, ethnicity, national origin, age, religion, disability status, family status, socioeconomic background, and other visible and non-visible identities. Columbia University does not tolerate unlawful discrimination, discriminatory harassment, sexual assault, domestic violence, dating violence, stalking, or sexual exploitation and all such conduct is forbidden by Columbia University Policy.

**Duty to Report**

You deserve a University community free from discrimination, harassment, and gender-based misconduct including sexual harassment, sexual assault, domestic and dating violence, stalking, and sexual exploitation. It is therefore University policy to require Columbia faculty and staff to report to EOAA any instance or allegation of prohibited conduct involving any undergraduate or any graduate student that is disclosed to, observed by, or otherwise known to that employee. This requirement to report is in place to
help ensure that students are provided appropriate resources and to allow the University to mitigate harm to our community.

Confidential Resources

There are confidential resources on campus who do not have a Duty to Report, including:

- Sexual Violence Response & Rape Crisis/Anti-Violence Support Center (SVR)
- Ombuds Office
- Medical Services
- University Counseling and Psychological Services
- University Pastoral Counseling
- Columbia Office of Disability Services

University employees working in a confidential capacity will not report information shared with them.

Inclusion

In the M.S. in Sustainability Management program, faculty and staff are committed to the creation and maintenance of “inclusive learning” spaces – classrooms and other places of learning where you will be treated with respect and dignity, and where all individuals are provided equitable opportunity to participate, contribute, and succeed.

In our classroom, all students are welcome regardless of race/ethnicity, gender identities, gender expressions, sexual orientation, socio-economic status, age, disabilities, religion, regional background, Veteran status, citizenship status, nationality and other diverse identities that we each bring to class.

Class Recordings

All or portions of the class may be recorded at the discretion of the Instructor to support your learning. At any point, the Instructor has the right to discontinue the recording if it is deemed to be obstructive to the learning process.

If the recording is posted, it is confidential and it is prohibited to share the recording outside of the class.

Course Schedule (**tentative and subject to change**)

<table>
<thead>
<tr>
<th>Session (by topics NOT WEEKS)</th>
<th>Module</th>
<th>Readings and Resources</th>
<th>Activities / Assignments</th>
</tr>
</thead>
</table>
| 1                             | Introduction & Fundamentals of Business | Videos | • Review Readings and Resources  
• Attend Class Session  
• Watch videos prior to Class Session |
|                               |        | How To Create Profit Like Warren Buffett (14 min)  
How The Economic Machine Works (30 min)  
Porter's Five Forces (~5 min) | |
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<thead>
<tr>
<th>Session (by topics NOT WEEKS)</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>• BRT- Statement on the Purpose of a Corporation</td>
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<tr>
<td>2</td>
<td>Accounting Part I</td>
<td>Reading</td>
<td>• Review Readings and Resources</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <em>Financial Intelligence: A Manager’s Guide to Knowing What the Numbers Really Mean.</em></td>
<td>• Attend Class Session</td>
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<tr>
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<td></td>
<td><em>Karen Berman &amp; Joe Knight. Ch. 1-8</em></td>
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<tr>
<td>3</td>
<td>Accounting Part II</td>
<td>Reading</td>
<td>• Review Readings and Resources</td>
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<tr>
<td></td>
<td></td>
<td>• <em>Financial Intelligence: A Manager’s Guide to Knowing What the Numbers Really Mean.</em></td>
<td>• Attend Class Session</td>
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<tr>
<td></td>
<td></td>
<td><em>Karen Berman &amp; Joe Knight. Ch. 9-13</em></td>
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<tr>
<td>4</td>
<td>Financial Performance Measurement</td>
<td>Reading</td>
<td>• Review Readings and Resources</td>
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<td></td>
<td>• <em>Financial Intelligence: A Manager’s Guide to Knowing What the Numbers Really Mean.</em></td>
<td>• Attend Class Session</td>
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<td></td>
<td></td>
<td><em>Karen Berman &amp; Joe Knight. Ch. 14-18</em></td>
<td>• Financial Statements Assignments Assigned</td>
</tr>
<tr>
<td>5</td>
<td>Corporate Finance Part I</td>
<td>Reading</td>
<td>• Review Readings and Resources</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <em>Financial Intelligence: A Manager’s Guide to Knowing What the Numbers Really Mean.</em></td>
<td>• MC Exam Due</td>
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<tr>
<td></td>
<td></td>
<td><em>Karen Berman &amp; Joe Knight. Ch. 19-25</em></td>
<td>• Financial Statements Assignments Due</td>
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<td></td>
<td>• Attend Class Session</td>
</tr>
<tr>
<td>6</td>
<td>Corporate Finance Part II</td>
<td>Reading</td>
<td>• Review Readings and Resources</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <em>HBR Guide to buying a small business: Think Big, Buy Small, Own Your Own Company.</em></td>
<td>• Group members and target company due to TA</td>
</tr>
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<td></td>
<td></td>
<td><em>Richard S. Ruback. Part I</em></td>
<td>• Attend Class Session</td>
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<tr>
<td>Session</td>
<td>Module</td>
<td>Readings and Resources</td>
<td>Activities / Assignments</td>
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</tbody>
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| 7       | Valuation Part I, ESG Screening | **Reading**  
- *HBR Guide to buying a small business: Think Big, Buy Small, Own Your Own Company.* Richard S. Ruback. **Part II** | • Review Readings and Resources  
• Attend Class Session |
| 8       | Valuation Part II | **Reading**  
- *HBR Guide to buying a small business: Think Big, Buy Small, Own Your Own Company.* Richard S. Ruback. **Part III**  
**Optional Reading**  
- Redacted ESG Policy | • Review Readings and Resources  
• Attend Class Session  
• ESG Screened Public Company Valuation Assignments Assigned |
| 9       | Financial Modeling Part I | **Reading**  
- *HBR Guide to buying a small business: Think Big, Buy Small, Own Your Own Company.* Richard S. Ruback. **Part IV** | • Review Readings and Resources  
• MC Exam Due  
• ESG Screened Public Company Valuation Assignments Due  
• Attend Class Session |
| 10      | Financial Modeling Part II | **Reading**  
- *HBR Guide to buying a small business: Think Big, Buy Small, Own Your Own Company.* Richard S. Ruback. **Part V** | • Review Readings and Resources  
• Attend Class Session |
| 11      | Financial Modeling Part III | None | • Review Readings and Resources  
• Attend Class Session |
<table>
<thead>
<tr>
<th>Session (by topics NOT WEEKS)</th>
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</thead>
</table>
| 12                             | ESG/Impact Investment | • Optional Reading  
  ○ *Long Run Returns to Impact Investing in Emerging Market and Developing Economy* | • Attend Class Session  
  • Review Readings and Resources |
| 13/14                          | Review | • None                 | • Group Presentations Due (NOT for Online Class)  
  • Group Investment Committee Recommendation & Financial Model Assignments Assigned (Due Next Week) |