FINANCE & SUSTAINABILITY

B8349

Fall 2020

Professor Bruce Usher

Uris Hall 316A

212 854 6100 / 917 287 5638

Office Hours: By appointment only (bmu2001@gsb.columbia.edu)

All course readings and cases are posted on Canvas, and all course announcements are made through Canvas. Students should regularly check Canvas for announcements and course materials.

COURSE DESCRIPTION

This course provides a high-level introduction to the financial products that can be used to address sustainability across a broad range of issues. By design, this course does not provide a deep dive on any specific issue. Each class will address a specific social or environmental challenge and the financial product designed to address it, using a combination of cases and class discussion to reach our course objectives. The course is composed of three modules:

I. Finance and the Environment
   a. Financing biodiversity and species conservation – capital markets
   b. Carbon markets and climate change – capital markets and project finance
   c. Financing renewable energy – project finance
   d. Catch shares and sustainable fisheries – capital markets

II. Finance to Reduce Poverty in Developing Countries
   a. Financial inclusion in developing countries – retail and commercial banking
   b. Financing SMEs in developing countries – commercial banking and investment management
   c. Project finance in developing countries – project finance, development finance
   d. Financial innovation for poverty reduction in developing countries – various financial tools

III. Finance to Address Social Challenges in the United States
   a. Impact investing in the US – investment management
   b. Community development finance in the US – banking and investment management
   c. Infrastructure finance in the US – real estate and project finance
   d. Financial innovation to address social challenges in the US – various financial tools
COURSE OBJECTIVES

This course is designed for both MBA students planning a career in financial services who want to understand the potential impact of their work on issues of sustainability, and for students planning a career in social enterprise who want to understand the application of financial products. Specifically, the course objectives are to:

1. Understand the relationship between finance and sustainability.
2. Analyze which financial products are effective (as measured by both sustainable impact and financial sustainability), and which are not.
3. Learn how the effective implementation of finance to address sustainability can be practically applied in a variety of contexts.

Students interested in a deeper exploration of climate change are recommended to take Climate Finance (B8363), and students with a strong interest in impact investing are recommended to take the Impact Investing Seminar (B8355). However, note that there is some overlap between the Finance & Sustainability course, which makes an introduction to these topic areas, and the Climate Finance and Impact Investing courses, which include more in-depth analysis. Students interested in a deeper dive on related topics might also want to consider Investing in Social Ventures (B8767) or Bridging the American Divide (B8585).

REQUIRED COURSE MATERIAL

The Finance & Sustainability course utilizes the following cases and readings:

- Finance and the Environment
  - Financing Biodiversity and Species Conservation
    - Financing Biodiversity by the Global Conservation Fund
    - The Black Rhino
  - Carbon Markets and Climate Change
    - The Political Economy of Carbon Trading
    - International Carbon Finance and EcoSecurities
- Financing Renewable Energy
  - Jersey-Atlantic Wind Farm
  - SunEdison
- Catch Shares and Sustainable Fisheries
  - Sustaining America’s Fisheries
  - Clearwater Seafoods
- Finance to Reduce Poverty in Developing Countries
  - Financial Inclusion in Developing Countries
    - It Took a Village
    - IPO Pits Profit vs Altruism
    - myAgro
Financing SMEs in Developing Countries
  - Root Capital
  - E+Co: A View from the Boardroom

Project Finance in Developing Countries
  - International Rivers Network and the Bujagali Dam Project
  - Financing the Mozal Project

Financial Innovation for Poverty Reduction in Developing Countries
  - Mobile Banking for the Unbanked
  - Kingo Energy: Turning Lives ON

Finance to Address Social Challenges in the United States
Impact Investing in the United States
  - The Norwegian Government Pension Fund: The Divestiture of Wal-Mart Stores
  - Impact America Fund: Challenges of New Fund Formation

Community Development Finance in the United States
  - Grameen America: An Approach to Mitigating Poverty in the United States
  - EasyPay: An Alternative Loan for the Underbanked

Infrastructure Finance in the United States
  - Canyon-Agassi Investing in Charter Schools
  - Shift Capital

Financial Innovation to Address Social Challenges in the United States
  - Fresno’s Social Impact Bond for Asthma

REQUIRED PREREQUISITES AND CONNECTION TO THE CORE

Students must have completed or be concurrently enrolled in B8306 - Capital Markets & Investments. The learning in this course will utilize, build on and extend concepts covered in the following core courses:

<table>
<thead>
<tr>
<th>Core Course</th>
<th>Connection with Core</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate Finance</td>
<td>o Discounted cash flow models</td>
</tr>
<tr>
<td></td>
<td>o Capital structure and cost of capital</td>
</tr>
<tr>
<td></td>
<td>o Risk and return</td>
</tr>
<tr>
<td></td>
<td>o WACC and leverage</td>
</tr>
<tr>
<td>Strategy Formulation</td>
<td>o Cost leadership</td>
</tr>
<tr>
<td></td>
<td>o Implementation</td>
</tr>
<tr>
<td>Global Economic Environment</td>
<td>o Role of financial markets in the economy</td>
</tr>
<tr>
<td></td>
<td>o Exchange rates</td>
</tr>
<tr>
<td>Managerial Economics</td>
<td>o The limits of markets</td>
</tr>
<tr>
<td></td>
<td>o Agency and incentives</td>
</tr>
</tbody>
</table>

Students will be expected to have mastered these concepts and be able to apply them in the course.
ASSIGNMENTS

Students are required to individually complete very short quizzes prior to certain classes, and to prepare two case write-ups during the course, which include building a financial model and analyzing investment risk and return. Students will also work in teams on a group project during the last four weeks of the course. The final exam is a take-home case, due one week after the last class.

METHOD OF EVALUATION

This course relies predominately on the case method. Although this is a finance course, there is relatively little financial modeling required, as the focus of most of the classes is on understanding concepts, and the challenges and opportunities of applying those concepts in real-world settings. The chosen cases analyze companies that use financial products to create sustainable social and/or environmental value, to understand why certain business decisions and models have succeeded while others have failed. This course requires active class participation, and students’ grades will be heavily dependent on the quality of class discussion, including on-line quizzes and polls. Guest speakers will be invited to a few classes and will provide an opportunity for students to meet industry specialists. Students are expected to challenge each other and to challenge the professor and our guests.

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class participation (including on-line quizzes and polls)</td>
<td>40%</td>
</tr>
<tr>
<td>Two case write-ups with financial analysis (Type B2 - individual)</td>
<td>20%</td>
</tr>
<tr>
<td>Group project (Type A – group/group)</td>
<td>10%</td>
</tr>
<tr>
<td>Final take-home exam (Type C- individual)</td>
<td>30%</td>
</tr>
</tbody>
</table>

CLASSROOM NORMS AND EXPECTATIONS

Students are expected to adhere to CBS Core Culture in this course by being Present, Prepared, and Participating. Students are required to prepare for each class by reading and analyzing the assigned cases, utilizing the study guidance questions which are provided in the Canvas system, and completing the on-line question set. In class, students are expected to add thoughtful points to each class discussion, whether in-person or on Zoom.

ATTENDANCE POLICY

Students are required to attend each class, whether in-person or on Zoom. Students should contact the TA regarding excused absences (for religious observances; personal, medical, and family emergencies; military service; court appearances such as jury duty). Unexcused absences will affect your class participation grade and your overall course grade.

- Students that miss >33% of their classes (unexcused absences) will at most receive a P for the course grade.
- Students that miss >50% of their classes (unexcused absences) will receive an F for the course grade.
INCLUSION, ACCOMMODATIONS, AND SUPPORT FOR STUDENTS

Columbia Business School will make reasonable accommodations for persons with documented disabilities. Students are encouraged to contact the Columbia University’s Office of Disability Services for information about registration. Students seeking accommodation in the classroom may obtain information on the services offered by Columbia University’s Office of Disability Services online at www.health.columbia.edu/docs/services/ods/index.html or by contacting (212) 854-2388.

Columbia Business School is committed to maintaining a safe environment for students, staff and faculty. Because of this commitment and because of federal and state regulations, we must advise you that if you tell any of your instructors about sexual harassment or gender-based misconduct involving a member of the campus community, your instructor is required to report this information to a Title IX Coordinator. They will treat this information as private, but will need to follow up with you and possibly look into the matter. Counseling and Psychological Services, the Office of the University Chaplain, and the Ombuds Office for Gender-Based Misconduct are confidential resources available for students, staff and faculty. “Gender-based misconduct” includes sexual assault, stalking, sexual harassment, dating violence, domestic violence, sexual exploitation, and gender-based harassment. For more information, see http://sexualrespect.columbia.edu/gender-based-misconduct-policy-students.