

## FINANCE & SUSTAINABILITY

B8349

Fall 2016

Professor Bruce Usher

Uris Hall 316A

212 854 6100 / 917 287 5638

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

---

### REQUIRED COURSE MATERIAL

The Finance & Sustainability course utilizes the following cases, articles and background notes:

#### Financing Land Conservation

- Financing Biodiversity by the Global Conservation Fund
- Patagonia Sur: For-Profit Land Conservation in Chile

#### Carbon Markets and Climate Change

- The Political Economy of Carbon Trading
- International Carbon Finance and EcoSecurities

#### Financing Renewable Energy

- Jersey-Atlantic Wind Farm
- Keystone Solar

#### Catch Shares and Sustainable Fisheries

- Sustaining America's Fisheries (Environmental Defense)
- Clearwater Seafoods

#### Financial Innovation for the Environment

- The Solar Services Model (World Resources Institute)
- Berkeley going solar (SFGate.com)
- The Black Rhino

#### Impact Investing

- Responsible Investing Takes Root
- The Norwegian Government Pension Fund: The Divestiture of Wal-Mart Stores
- Stanford Dumps Coal

#### Microfinance in Developing Countries

- It Took a Village

- Banco Compartamos
- Microfinance's Success Sets Off a Debate in Mexico
- IPO Pits Profit vs Altruism
- The Battle for the Soul of Microfinance

#### 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
- The Equator Principles: An Industry Approach to Managing Environmental and Social Risks

#### Community Development Finance in the United States

- EasyPay: An Alternative Loan for the Underbanked
- SJF Ventures and Ryla Teleservices: 2003

#### Financial Innovation for Poverty Reduction

- Social Finance Inc.
- Mobile Banking for the Unbanked

### REQUIRED PREREQUISITES AND CONNECTION TO THE CORE

Students must have completed or be concurrently enrolled in B8306 - Capital markets and investments.

The learning in this course will utilize, build on and extend concepts covered in the following core courses:

Core Course	Connection with Core
Corporate Finance	<ol style="list-style-type: none"> <li>1. Time value of money</li> <li>2. Efficient markets</li> <li>3. Risk</li> <li>4. Capital Asset Pricing Model</li> </ol>
Decision Models	<ol style="list-style-type: none"> <li>1. Use of analysis in decision making</li> <li>2. Decision making under uncertainty and risk</li> <li>3. Sensitivity analysis</li> </ol>
Global Economic Environment I	<ol style="list-style-type: none"> <li>1. Role of financial markets in the economy</li> <li>2. Exchange rates</li> </ol>
Managerial Economics	<ol style="list-style-type: none"> <li>1. Analyzing complex decision making under uncertainty</li> </ol>

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

## COURSE DESCRIPTION

This is a finance course, designed around a combination of cases and financial tools to reach our course objectives. The course is composed of three modules:

- I. Financing Environmental Solutions
  - a. Financing land conservation – capital markets and investment management
  - 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
  - e. Financial innovation for the environment – various financial tools
  
- II. Impact Investing
  - a. Socially responsible investing and divestment– investment management
  
- III. Financing Social Solutions
  - a. Microfinance in developing countries – commercial banking
  - b. Financing SMEs in developing countries – commercial banking and investment management
  - c. Project finance in developing countries – project finance
  - d. Community development finance in the US – investment management
  - e. Financial innovation for poverty reduction – 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 tools. Specifically, the course objectives are to:

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

This course provides a high level introduction to the financial tools 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. Students interested in a deeper exploration of climate change are recommended to take Carbon Finance (B8363), and students with a strong interest in impact investing are recommended to take the Impact Investing Seminar (B8355). Note that there is some overlap between the Finance & Sustainability course, which provides an introduction to these topic areas, and the Carbon Finance and Impact Investing courses, which include more in-depth analysis.

## ASSIGNMENTS

Students are required to individually complete a short on-line question set prior to each class, and to prepare one case write-up during the course which includes building a financial model. The final exam is a take-home case, due five days 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 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 tools to create sustainable social and/or environmental value, in order 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. 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.

Class participation	50%
On-line question sets (Type C - individual)	10%
Case write-up with financial model (Type C - individual)	10%
Final take-home exam (Type C- individual)	30%

## CLASSROOM NORMS AND EXPECTATIONS

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 analysis to each class discussion.

There is a "no devices" policy in this course. Please leave your phones and computers off. Violations of this policy will lead to deductions from a student's class participation grade.

Students are requested to sit in the same seat for the duration of the course to enhance class discussion and facilitate grading of class participation. Please choose your seat in the first class.