

## **B8363 CLIMATE FINANCE**

**Spring 2023 (1.5 Credits)**

### **Parinitha Sastry**

Kravis (TBD)

E-mail: [p.sastry@columbia.edu](mailto:p.sastry@columbia.edu)

Office Hours: TBD, Kravis 766

Communications from professor and teaching assistants about the course will take place through Canvas. Students should make sure they regularly check for announcements and messaging notifications.

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### **COURSE DESCRIPTION**

Climate change may be today's most serious challenge to the future of humanity. Scientists have concluded that avoiding catastrophic climate change will require a reduction in greenhouse gas emissions to zero by 2050 or shortly thereafter, a dramatic reversal after several hundred years of industrial growth. This will require a rapid transformation of the global economy, requiring trillions of dollars in capital and creating new and risks and opportunities for investors to finance the transition.

This course builds on the lessons learned in B8705 Business and Climate Change. The course begins with an introduction to climate finance and the topic of carbon markets, followed by classes on project finance to finance renewable energy, venture and growth capital to finance emerging climate technologies, and public equity strategies including divestment and ESG investing. Financial products in the fixed income and insurance markets are examined for climate impact, followed by a class session on development finance to understand the unique challenges and solutions to investing in climate solutions in emerging markets.

The course wraps-up with a class session on the strategies used by banks and investment firms for the transition to net zero, concluding with a discussion of the impact of the climate crisis on opportunities and careers in finance.

### **PRE & COREQUISITE COURSES**

Prerequisite: B8705 Business and Climate Change

Corequisite: B8306 Capital Markets & Investments

## STUDENT LEARNING OUTCOMES

- This course is designed to build upon the learning outcomes of B8705 Business and Climate Change, providing students with a deep dive on climate finance topics in order to:
- Become familiar with investor strategies for financing climate solutions in the context of a carbon-constrained global economy and national and international policy developments.
  - o Understand the implications of a transition to net zero on banks, asset managers, and other financial firms.
- Evaluate the impact of investment decisions on greenhouse gas emissions and climate change.

## COURSE SCHEDULE

Class	Topic(s)	Required Pre-Readings	Assignments Due (Type)
1	<b>Introduction to Climate Finance Carbon Markets</b>	<ul style="list-style-type: none"> <li>o Investing in the Era of Climate Change chapters 1-3, 17</li> <li>o Can carbon markets accelerate progress towards net zero?</li> <li>o International Carbon Finance and EcoSecurities</li> </ul>	
2	<b>Project Finance: Renewable Energy</b>	<ul style="list-style-type: none"> <li>o Investing in the Era of Climate Change chapters 4, 15</li> <li>o The Jersey-Atlantic Wind Farm</li> </ul>	Project finance assignment (C - individual)
3	<b>Venture Capital and Growth Equity: Climate Tech</b>	<ul style="list-style-type: none"> <li>o Investing in the Era of Climate Change chapters 13, 14, 18</li> <li>o Climate Tech case tbd</li> </ul>	
4	<b>Public Equities: Divestment and ESG</b>	<ul style="list-style-type: none"> <li>o Investing in the Era of Climate Change chapters 11, 12, 20, 21</li> <li>o Columbia Divestment</li> <li>o Can a Tiny Hedge Fund Push ExxonMobil Towards Sustainability?</li> <li>o Blackrock: Linking Purpose to Profit</li> </ul>	
5	<b>Fixed Income Insurance Investing in Developing Countries</b>	<ul style="list-style-type: none"> <li>o Investing in the Era of Climate Change chapter 22</li> <li>o DSD Solar Securitization</li> <li>o Coal Burns Out as Insurance Dries Up</li> <li>o Making Impact Investing Markets: IFC(A)</li> </ul>	
6	<b>Finance and the Net Zero Transition Course Summary</b>	<ul style="list-style-type: none"> <li>o Investing in the Era of Climate Change chapters 23-26</li> <li>o Climate Risk and Banking: Citi's Net Zero Future</li> </ul>	Decarbonization strategy assignment (A - group)
<b>Final Take-Home Exam</b> due one week after the final class (C - individual).			

## METHOD OF EVALUATION

This course relies predominately on the case method. 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 introduce the strategies and financial products used by investors to finance the decarbonization of the global economy. This course requires active class participation, and students' grades will be heavily dependent on the quality of class discussion. Students are expected to challenge one another, guests, and the professor.

Students' grades in the course are based on the following metrics:

Class participation (C - individual)	40%
Climate Tech Assignment (C - individual)	10%
Business Transition Assignment (A – group/group)	10%
Final exam (C - individual)	40%

## CLASSROOM NORMS AND EXPECTATIONS

### Core Culture

Students are expected to adhere to [CBS Core Culture](#) in this class by being Present, Prepared, Participating. Students are required to prepare for each class by reading and analyzing the assigned cases and other materials and utilizing any study guidance questions provided via Canvas. In class, students are expected to add thoughtful points to each class discussion.

### Honor Code and Academic Integrity

The [Columbia Business School Honor Code](#) calls on all members of the School community to adhere to and uphold the notions of truth, integrity, and respect both during their time in school, and throughout their careers as productive, moral, and caring participants in their companies and communities around the world. All students are subject to the Honor Code for all of their academic work. Failure to comply with the Honor Code may result in [Dean's Discipline](#). Here you can review [examples of Academic Misconduct](#) which may result in discipline.

### **Course Attendance Policies**

Students from all programs should review and be familiar with the [MBA Core attendance policy here](#). Students are required to attend each class – class attendance and participation will be recorded. Students should reach out to the professors and 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, as follows:

- Students that miss more than 33% of their classes (unexcused absences) will at most receive a P for the course grade.
- Students that miss more than 50% of their classes (unexcused absences) will receive an F for the course grade.

### **Inclusion, Accommodation, and Support for Students**

At Columbia Business School we believe diversity strengthens any community or business model and brings it greater success. The School is committed to providing all students with equal opportunity to thrive in the classroom by providing a learning, living, and working environment free from discrimination, harassment, and bias on the basis of gender, sexual orientation, race, ethnicity, socioeconomic status, or ability.

Students with documented disabilities may receive reasonable accommodations. Students are encouraged to contact the Columbia University's Office of Disability Services for [information about registration](#).

Columbia Business School adheres to all community, state, and federal regulations as relate to Title IX and student safety. Read more about CBS' policies to support [Inclusion, Accommodations and Support for Students here](#).