

## ECONOMICS OF CLIMATE CHANGE

<b>Course code</b>	<i>GRAB002</i>
<b>Level of studies</b>	<i>Graduate</i>
<b>Number of credits</b>	<i>3 ECTS; 18 class hours, 62 hours of self-study, 1 hour of consultation</i>
<b>Course coordinator (title and name)</b>	<i>Assoc. prof. dr. J. Boyd, e-mail: jonboy@ism.it</i>
<b>Prerequisites</b>	<i>Undergraduate diploma</i>
<b>Language of instruction</b>	<i>English</i>

### THE AIM OF THE COURSE

Climate change represents one of the biggest challenges facing modern society. Economics can provide a powerful intellectual foundation for understanding and analysing many of these challenges. This course employs insights and tools from economics to study problems around climate change impacts, the design of mitigation and adaptation policies, and the consequences of these policies. The course builds on key concepts from environmental and natural resource economics but also draws from other fields in economics.

This course explores the economic characteristics of the climate change problem, assesses national and international policy design and current implementation issues, and surveys the economic tools necessary to evaluate climate change policies. The objectives of the course are to understand how the costs and benefits of mitigation are measured, to understand the economics of carbon pricing and other regulatory policies and key design questions; to understand the current landscape of domestic and international policy planning and implementation.

Climate change has a unique set of attributes that make standard economic analysis very difficult to apply. It is a global problem requiring unprecedented international cooperation. It is pervaded by uncertainty in every step of the process of translating global emissions into local damages. The costs and benefits of its mitigation are highly mismatched geographically as well as temporally. And its damages are largely irreversible. This class is about breaking down the many challenges of climate change and seeing what economics research has done to address them. The course will discuss what is known (and what is not known) about the economic damages of climate change; will study theoretical models that clarify the policy problem; and will examine existing and potential climate policies and their relative strengths and weaknesses.

The course is discussion oriented and will require a high degree of participation by students in the classroom. Students are expected to complete the assigned readings and coursework before each session. Sessions will consist of a lecture and discussion to reinforce the readings/modules, followed by assigned in-depth book reviews of notable texts in the field. Students will, at the end of this course, know significantly more about the economics of climate change and also be equipped to begin carrying out research on this all-important topic.

### LEARNING OUTCOMES

<b>Course learning outcomes (CLO)</b>	<b>Study methods</b>	<b>Assessment methods</b>
CLO1. To understand economic characteristics and outcomes of the climate change.	Lectures, readings, online modules, self-study, in-class discussions	Exam, presentations, participation, certificates.
CLO2. To assess national and international climate policy design and their implementation issues.	Lectures, readings, online modules, self-study, in-class discussions	Exam, presentations, participation, certificates.
CLO3. To understand what are the costs and benefits and how the costs and benefits of mitigation are measured	Lectures, readings, online modules, self-study, in-class discussions	Exam, presentations, participation, certificates.
CLO4. To learn how to plan strategic development of a company with environmentalist mindset	Lectures, readings, online modules, self-study, in-class discussions	Exam, presentations, participation, certificates.
CLO5. To learn make better-informed environmental policy related decision, all while distinguishing between positive analyses and normative judgements	Lectures, readings, online modules, self-study, in-class discussions	Exam, presentations, participation, certificates.

CLO6. To sharpen critical analysis and communication abilities, especially in the context of complex and systemic climate change issues, and apply systems thinking to real-world business problems.	Lectures, readings, online modules, self-study, in-class discussions	Exam, presentations, participation, certificates.
CLO7. To expand general understanding of the complex decisions faced by managers in business, government, and non-profit organizations.	Lectures, readings, online modules, self-study, in-class discussions	Exam, presentations, participation, certificates.
CLO8. To be challenged to clarify your own values and opinions on issues related to sustainability and climate change.	Lectures, readings, online modules, self-study, in-class discussions	Exam, presentations, participation, certificates.
CLO9. To develop critical thinking and problem-solving skills	Lectures, readings, online modules, self-study, in-class discussions	Exam, presentations, participation, certificates.

### ACADEMIC HONESTY AND INTEGRITY

The ISM University of Management and Economics Code of Ethics, including cheating and plagiarism are fully applicable and will be strictly enforced in the course. Academic dishonesty, and cheating will lead to a report to ISM's Committee of Ethics.

### QUALITY ASSURANCE MEASURES

The lecturer will apply multiple teaching methods to keep the students engaged in the topic. Continuous student feedback will be invited and accommodated to improve class experience. Students are encouraged to e-mail the lecturer between the respective classes for any assistance or clarification needed.

### COURSE OUTLINE

Session	Topic	In-class hours	Readings
1	<b>The climate crisis</b>	4	UN CC:e-Learn "Climate Change: From Learning to Action"
2	<b>Economics of the environment</b>	4	Core Econ: Unit 20 <a href="https://www.core-econ.org/the-economy/book/text/20.html">https://www.core-econ.org/the-economy/book/text/20.html</a>
3	<b>Green economy and trade</b>	4	UN CC:e-Learn "Green Economy and Trade" UN CC:e-Learn "Introduction to Green Economy" UN CC:e-Learn "Green Fiscal Policy" UN CC:e-Learn "Carbon Taxation"
4	<b>Inclusive green economy</b>	4	UN CC:e-Learn "Children and Climate Change" UN CC:e-Learn "Cities and Climate Change" UN CC:e-Learn "Gender Equality and Human Rights in Climate Action and Renewable Energy" UN CC:e-Learn "An introduction to Climate Change and Human Rights"
5	<b>The economics of biodiversity</b>	2	The Dasgupta Review (Abridged Version) <a href="https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review">https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review</a>
		<b>Total: 18 hrs.</b>	

### FINAL GRADE COMPOSITION

Type of assignment	% of the total grade
Final exam	40

UN CC:e-Learn certificates (3% each)	27
Class participation	13
Book report	20
<b>Total:</b>	<b>100</b>

## DESCRIPTION AND GRADING CRITERIA OF EACH ASSIGNMENT

### Assessment 1. Final exam (40%)

The questions will draw from all of the required readings and UN modules, along with lectures and discussions.

### Assessment 2. UN CC:e-Learn certificates (27%).

Throughout the course, nine UN online modules must be completed (full list above). Upon successful completion of each module users are issued a certificate, which you will upload to e-Learning. Each completed certificate is worth 3% of your final grade.

### Assessment 2. Class Participation (13%)

The course will be discussion-oriented and will require a high-degree of participation by students in the classroom. Students are expected to prepare for class by completing the assigned reading prior to the class and to participate in class sessions.

### Assessment 3. Book report (20%)

Students will be assigned a notable book on the topic of climate change and related issues, and will provide a 30-minute précis to the class. Expectations are high: please not only provide a summary, but also discuss its reception (i.e. explore book reviews) and provide your own critical assessment. Q&A led by the instructor will follow each presentation.

## RETAKE

In case of an unsatisfactory exam grade, students will be allowed to sit a retake exam, worth 40% of the final grade (the grades of the other assessments will remain untouched).

## REQUIRED READINGS

Readings will be available on the internet or via e-learning. Assigned readings may be revised up until one week before class, so please check the syllabus regularly.