ENVIRONMENT, CLIMATE AND DEVELOPMENT

Master in International Development MID SEP-2024 S-1

Area International Relations

Number of sessions: 14

Term: Term 2

Category: regular

Language: English

Professor: **CARLOS GARCÍA PARET**

E-mail: cgarciap@faculty.ie.edu

Carlos has been involved for the last 25 years working in areas related to sustainable development, international cooperation and climate and nature finance, as a professional in different NGOs, consultant, visitor professor in Spain, Brazil, France and at the international level. He spent 9 years in the Brazilian Amazon dealing with projects and campaigns to tackle deforestation and human rights challenges, mostly with indigenous groups and small farmers.

He holds a Degree in Economics from the Autonoma University of Madrid; Master in Climate, Energy and Finance from the Dauphine University of Paris and several expert courses in sustainable development (ILO, Un. of Berkeley, UAM, etc.). He published his thesis called “Shaping financial markets dealing with climate change” in the prestigious Association d’Économie Financière of France for nourishing the climate finance debates at the eve of the Paris Agreement. As climate finance expert he has supported WWF and other NGOs to find the way to make public and public finance flows consistent with the climate commitments.

He has an international expertise in international summits like Rio +20 (2012), COP21 (2015), HLPF (2018) or COP 25 (2019) and has a long experience in advocacy processes with policy makers in Spain and European Union Institutions.

Currently, he works on Greenpeace Spain as advocacy coordinator.

Carlos used to be invited to participate in forums, media, newspapers....

Office Hours

Office hours will be on request. Please contact at:

I will answer back email. Personal Q&A will be more efficient way to solve doubts during the sessions in class.

Professor: **MANUEL QUIRÓS GALDÓN**

E-mail: mquiros@faculty.ie.edu

Manuel Quirós has been involved for the last 25 years working in areas related to nature, from academics, research, dissemination, implementation and development. After 10 years as a postdoctoral scientist at the Polytech University Madrid working on endangered freshwater fish, he decides to explore non environmental education institutions to share the need to be aligned with Nature.

He holds a Degree in zoology from the Complutense University of Madrid; Master in Aquaculture from the University of Stirling, Scotland and PhD from the Polytechnic University of Madrid where he was contracted as a post-Doc researcher. He publishes over 130 scientific/divulgating papers so far.

At IE he is the creator and Head of the pioneering Slow Fashion Lab with private companies (Pepe Jeans, El Ganso, Hemper, El Corte Inglés, Pyratex, Ecoalf...) where students have the chance to work hand by hand with the brands. He is also Faculty at the SPEGA in the subject of Biodiversity & Conservation and selected to Advanced Seminars in the field of Biomimicry as well as Academic Capstone Director in Master programs. Next fall he will also teach at BBA School Disruptive Innovation Ecosystems annd Biomimicry at Master program. Manuel teaches currently also in several other universities such as University of Navarra; ESIC; Unesco Chair at Universidad del País Vasco; Robert H.Smith School of Business University of Maryland just to mention the more relevant ones.

Every year from 2016 he travelled with MSc students to the Colombian Amazonia to explore how design can enhance potentially the life quality of local indigenous communities, through social innovation projects, in collaboration with the government and Fundación Omacha. In addition he is co-Founder of several non lucrative associations (Biomimicry Iberia, Planeta Biomimetico España and Red Internacional Biomimesis) disseminating the message to sustainability to numerous media (government, civil society, Radio, TV, universities, publications, books, conferences ...).

Author of the unique blog in Spanish on biomimicry and he also is contributing editor of the award-winning journal Zygote Quarterly Journal based in Canada.

He currently collaborates with companies and administrations for the implementation of biomimicry and in sustainable innovation like ArcelorMittal (global leader of steel production), Spanish Olympic Committee, Balearic government,.. among others. Manuel is invited year by year to participate in forums, symposium, media, TV, newspapers... to discuss the non-technological perspective to the new coming world scenarios. Recently he was speaker in the ONU-Habitat conference invited by the País Vasco Government in Bilbao, Spain, or during the COP 25 in Madrid.

FBMore info:
Biomimicry Consultant site http://natureinspireus.com
Full CV: https://natureinspireus.com/wp-content/uploads/2024/01/cv-webMQ-Ene-24.pdf
Linkedin: https://www.linkedin.com/in/mquiros-biomimicry/?originalSubdomain=es

Office Hours

Office hours will be on request. Please contact at:

Manuel Quirós: Fridays from 10-12 h and I will answer back email. Personal Q&A will be more efficient way to solve doubts during the sessions in class.

SUBJECT DESCRIPTION

The current environmental crisis including climate change and biodiversity loss among others, in all likelihood their decline and intensity will increase. In this course we examine the scientific conceptual bases for a transversal understanding, assessing the global repercussions on the future development of societies, economics and interdisciplinary political ecology.

LEARNING OBJECTIVES

1. Understand the Science of Climate Change

Define climate change and describe the mechanisms driving it.
Explain the evidence supporting the existence and progression of climate change affecting the Life´s support systems (atmosphere, hydrosphere, biosphere, ...).
Discuss the natural and anthropogenic factors contributing to climate change.

2. Assess the most relevant Environmental Impacts

Describe key environmental threats such as biodiversity loss, deforestation, desertification, pollution, invasive species, ... and reinforcing feedbacks using the framework of planetary boundaries.

3. Discuss how climate change and other environmental threats impact human development

Analyze the economic impacts in growth, productivity, infrastructure, resource availability, public finance and stability
Explore the broader impacts on inequalities and human development, including health, migration, conflicts and urbanization.

4. Understand Global Efforts for Mitigation and Adaptation and Loss & Damage

Identify and describe the main international treaties, agreements and initiatives aimed at mitigating climate change.
Assess the policies dynamics, the ambition & justice and effectiveness of various policies and strategies at different levels.
Analyze the economics of ecological transition and the benefits for the society.

TEACHING METHODOLOGY

IE University teaching method is defined by its collaborative, active, and applied nature. Students actively participate in the whole process to build their knowledge and sharpen their skills. Professor's main role is to lead and guide students to achieve the learning objectives of the course. This is done by engaging in a diverse range of teaching techniques and different types of learning activities such as the following:

Learning Activity	Weighting
Lectures	25.0 %
Discussions	25.0 %
Exercises in class, Asynchronous sessions, Field Work	10.0 %
Group work	20.0 %
Individual studying	20.0 %
TOTAL	100.0 %

AI POLICY

Specific use cases of GenAI are encouraged

Generative artificial intelligence (GenAI) tools may be used in this course for [describe acceptable use cases, e.g. research, ideation, generating an outline, proofreading, grammar check, coding, image generation] with appropriate acknowledgement. GenAI may not be used for [describe the limitations, e.g. assignments, group submissions, exams]. If a student is found to have used AI-generated content inappropriately, it will be considered academic misconduct, and the student might fail the respective assignment or the course.

If you are in doubt as to whether you are using GenAI tools appropriately in this course, I encourage you to discuss your situation with me.

Below, a suggested format to acknowledge the use of generative AI tools. Please note that acknowledging AI will not impact your grade.

> *I acknowledge the use of [AI systems link] to [specify how you used generative AI]. The prompts used include [list of prompts]. The output of these prompts was used to [explain how you used the outputs in your work].*

PROGRAM

SESSION 1 (LIVE IN-PERSON)

Sustainability Topics:

- Environment
- Economic Development

INTRODUCTION TO THE SUBJECT.

Meeting each other. Introduction to the subject; understanding the structure, assignments, grading, etc.

First contact with students profile and interests.

Sustainability definition and principles. Environmental Sciences connected with nature. Ecological footprints and other unsustainable evidences by science.

Understanding how Nature works and its valuable sustainability and regenerative strategies.

The concept of carrying capacity, natural/earth/solar capital, human population growth and the Great Acceleration.

Resources: · ***The 11th hour*** documentary [https://watchdocumentaries.com/the-11th-hour/]. **Students must watch** this 1:30 h film previous to the first class.

·***The Anthropocene***: https://www.anthropocene.info/

· ***The Great Acceleration***: https://www.stockholmresilience.org/publications/publications/2016-04-18-the-trajectory-of-the-anthropocene-the-great-acceleration.html. Link to the pdf

SESSIONS 2 - 3 (LIVE IN-PERSON)

Climate Change. Definition, origin, evidences, data. Understanding the scientific concept. Carbon cycle and types of Carbon.

Consequences of climate change on biodiversity, land, oceans, environment... and over the Life´s supporting systems.

Introduction to the Planetary Boundaries framework.

Specific and relevant updated bibliography, reports, articles and websites will be shared during the session.

Resources: · ***Linking planetary boundaries to business***: chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.cisl.cam.ac.uk/system/files/documents/linking-planetary-boundaries.pdf

· ***State of the Global Climate 2023***: https://wmo.int/publication-series/state-of-global-climate-2023

SESSION 4 (LIVE IN-PERSON)

First part: Introduction. Biodiversity loss and other most relevant environmental threats such as deforestation, desertification, soil degradation, ocean acidification, global pollution... and their impact in the living world.

The Biomagnification-DDT case study. Understanding the the interconnection and interdependence of life on Earth.

Overall vision of how the actual global and intensive industry is affecting the planetary stability. The Agriculture Case study.

Specific and relevant bibliography, reports, articles and websites will be shared during the session.

Resources: WHAT'S IN STORE FOR THE PLANET: THE IMPACT OF UK SHOPPING BASKETS ON CLIMATE & NATURE - 2023. A WWF report {chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.wwf.org.uk/sites/default/files/2023-12/Whats-in-Store-for-the-Planet-full-report-2023.pdf}

· ***Life: a status Report*** a Nature publication. {https://www.nature.com/news/biodiversity-life-a-status-report-1.16523}

SESSION 5 (LIVE IN-PERSON)

Second part. Biodiversity loss and other most relevant environmental threats such as deforestation, desertification, soil degradation, ocean acidification, global pollution... and their impact in the living world.

In this single session we´ll complete the missing contents from the previous one.

The session will include a Q&A mini-quiz to fix concepts and discussions/reflections.

Resources: Specific and relevant bibliography, reports, articles and websites will be shared during the session.

SESSIONS 6 - 7 (LIVE IN-PERSON)

Sustainability Topics:

- Environment
- Economic Development

Introduction.

Key concepts on climate change impacts & politics.
Economic and financial impacts of climate-change. State of the art & foreseen economic cost. Data sources. Analysis on growth, inflation, productivity, national accounts, public finance and financial risk.

Resources: Students must have read this article

Specific and relevant bibliography, reports, articles and websites:

How to calculate climate change risk for a developing country
Climate Change Knowledge Portal

How much will climate change cost developing nations? | World Economic Forum

The impact of climate change on the The impact of climate change on the global economy.

State-of-the-art global models underestimate impacts from climate extremes

IPCC 6th Assessment. Chapter 15. Investment and Finance

IPCC WGI Interactive Atlas

SESSION 8 (LIVE IN-PERSON)

Sustainability Topics:

- Environment
- Governance
- Economic Development

Impacts on inequalities, human development, gender, migration, conflicts.
Resources: Students must have read this article

Specific and relevant bibliography, reports, articles and websites:

Climate Equality: A planet for the 99%

Climate change impacts increase economic inequality: evidence from a systematic literature review

Climate Impact on Gender Equality

In-depth Q&A: How does climate change drive human migration?

Climate Diplomacy, case studies

SESSION 9 (LIVE IN-PERSON)

Impacts on health, food security, water disposal and livelihoods
Resources: Students must have read this article

Specific and relevant bibliography, reports, articles and websites will be shared during the session.

The 2024 Lancet Countdown in Europe Report - ISGLOBAL

The 2023 report of the Lancet Countdown on health and climate change: the imperative for a health-centred response in a world facing irreversible harms

Heat Caused 47,000 Deaths in Europe in 2023 - ISGLOBAL

Strategy for scaling sustainable landscape solutions for people and planet

SESSIONS 10 - 11 (LIVE IN-PERSON)

Climate Governance & Institutions. The main international treaties and initiatives to tackle climate change. Steps on climate commitments from COP26 to COP29.
Assess the policies effectiveness to cope with climate change. Ex: European Green Deal, Carbon pricing, Carbon budget, Investment Taxonomy, Green stimulus.

Resources: Students must have read this post , this one and this one

Specific and relevant bibliography, reports, articles and websites.

Global Carbon Atlas

OECD Data Explorer. Climate actions and policies measurement framework

CLIMATE CHANGE 2023 Synthesis Report, IPCC

Reflections on the first Global Stocktake of the Paris Agreement - ScienceDirect

The European Climate Stocktake

IPCC 6th Assessment. Chapter 15 Investment and Finance & 16 Cross-cutting Investment and Finance Issues

Post-growth: A viable path to limiting global warming to 1.5°C - ScienceDirect

Investments in Sustainability Transition EC

Road to net Zero

New Sources for Public Climate Finance and for the Loss and Damage Fund - CAN Europe

SESSIONS 12 - 13 (LIVE IN-PERSON)

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Oral presentation of team work. Discussion and Q&A session.

Briefing of the Assignment will be introduced in class during the first session.

SESSION 14 (LIVE IN-PERSON)

Test

EVALUATION CRITERIA

criteria	percentage	Learning Objectives	Comments
Final Exam	35 %		MULTIPLE CHOICE TEST
Group Presentation	20 %		FINAL PROJECTS
Individual work	35 %		WORKS LINKED TO FINAL PROJECTS
Class Participation	10 %		

FAILING GRADE AND REASSESSMENT

When students receive a Fail in a course, they have the opportunity to present themselves for reassessment in order to earn the necessary credits toward graduation.

The reassessment of students should be scheduled between 5 and 10 working days after the review session takes place.

Grades for the reassessment are limited to a Low Pass and Fail.

Both, the initial Fail as well as the grade of the reassessment remain on the transcript. For the purpose of calculating the GPA however, only the grade of the reassessment is to be considered. Students receiving a failing grade in the reassessment of a course will not be able to continue in the program.

BEHAVIOR RULES

Please, check the University's Code of Conduct here. The Program Director may

provide further indications.

ATTENDANCE POLICY

Please, check the University's Attendance Policy here. The Program Director may provide further indications.

ETHICAL POLICY

Please, check the University's Ethics Code here. The Program Director may provide further indications.