

Environmental Politics and Climate Action: Biodiversity and Conservation

Master in International Development MID SEP-2024 S-1

Area Environmental Sciences

Number of sessions: 15

Term: Term 3

Category: elective

Language: English

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 researcher at the Polytech University Madrid researching in endangered freshwater fish, he decides to explore non environmental education institutions to share the need to be aligned with Nature. His major programs in education are Education for Sustainability and also Biomimicry, a disruptive ways to design according to Nature. Both during the beginning of the XX century where truly innovative in design schools.

At IE he is the creator and Head of the pioneering Slow Fashion Lab <https://ieulabs.ie.edu/ieulabs/slow-fashion-lab/> with private companies (Pepe Jeans, El Ganso, Hemper, Parafina, El Corte Inglés, Pyratex, ...) where students have the chance to work hand by hand with the brands. The Slow movement is strongly aligned with sustainability. He is also Faculty at the School of Design & Architecture in the subject of Sustainability and selected to Advanced Seminars in the field of Biomimicry.

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. Now this journey is again offered to Masters Degree ie students. In addition he is Founder of several non lucrative associations (Biomimicry Iberia, Planeta Biomimético España and Red Internacional Biomimesis) disseminating the message to sustainability to numerous media (government, civil society, Radio, TV, publications, books, conferences ...).

Author of the unique blog in Spanish on biomimicry and he is a contributing editor of the award-winning journal *Zygote Quarterly Journal*. He currently collaborates with companies for the implementation of biomimicry and in sustainable innovation like ArcelorMittal (global leader of steel production). Manuel is invited year by year to participate in forums, symposiums, media, TV, newspapers... to discuss the non-technological perspective to the new world. 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.

Manuel teaches currently in several universities such as University of Navarra; ESIC; Catedra/Chair de la Unesco de la Universidad del País Vasco; Robert H. Smith School of Business University of Maryland just to mention the more relevant ones. He has 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 programme during a decade. He publishes over 130 scientific/divulgating papers so far. He is the former executive Director of the DoTank Foro Consenso por el Clima (Climate Consensus Forum) with several ex-ministers, business and academics to build traction towards climate action and biodiversity.

More info:

Biomimicry Consultant site & Blog: <http://natureinspireus.com>

Full CV (in Spanish): <https://natureinspireus.com/wp-content/uploads/2024/01/cv-webMQ-Ene-24.pdf>

Wildlife-art: <https://natureinspireus.com/en/wild-art/>

LinkedIn: <https://www.linkedin.com/in/mquiros-biomimicry/?originalSubdomain=es>

Office Hours

Office hours will be on request. Please contact at:

Manuel Quirós will be available in person during the sessions in class and outdoors.

SUBJECT DESCRIPTION

During this 15 sessions program, students will understand the fundamentals and relevance of biodiversity, linked with business and the main global trends.

The combination of master classes and the two deep immersion in field-journeys with two outstanding NGOs located in Madrid, students will perceive with all senses the current biodiversity status.

At the end participants will understand the evolution from the "tunnel" vision from the climate change to a broader perspective including the whole life on Earth.

LEARNING OBJECTIVES

During this unique course, students will understand the fundamentals of the biodiversity, the importance, main threats and global biodiversity loss and evolution; instruments for global biodiversity conservation and how individually, we can contribute positively to this important issue.

The course will also cover the connection from people to the biodiversity and the life it holds, including the role as a provider of food, jobs and exciting opportunities as well as economics. The Living Planet Index from WWF and IPBES reports will be used as a overall introduction for the participants as well as for their commimment.

An introduction of Ecosystem Services, will open the solution spaces as the intrinsic value and their instrumental benefits to humans provided through the products and services we obtain from living ecosystems. These particular and life supporting services don't have technological-free substitutes.

The connection with health as well as with the supply chain and certifications with the biodiversity will also help to the participants to engage them to this subject as a fundamental conservation approach.

Natural Capital is defined as the stock of renewable and non-renewable resources (plants, animals, fungi, air, water, soil,) that combine to yield a flow of benefits to people. Much as an investor will use financial capital to generate profits, a stock of trees or population of fish will provide a future flow of timber or food, just as an example.

A basic approach of the disruptive discipline called Biomimicry, innovation inspired by nature, will be also covered during the classes.

Finally we'll have an exceptional opportunity to participate actively in two outdoors sessions. One related to a scientific method known as "bird ringing" hosted by scientific staff from NGO SEO Birdlife. Here will have a great and experiential journey close to urban biodiversity and bioindicators. The second journey we will visit actively a wild-life hospital in Madrid, an exceptional experience unique in Spain. In this installation students will see closely injured wild species caused by human actions. This impactful session will cvhange the way we see and understand biodiversity. The NGO is GREFA. Both visits can be reached by public transportation.



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	30.0 %
Discussions	15.0 %
Exercises in class, Asynchronous sessions, Field Work	15.0 %
Group work	20.0 %
Individual studying	20.0 %
TOTAL	100.0 %

PROGRAM

SESSIONS 1 - 2 (LIVE IN-PERSON)

Sustainability Topics:

- Environment
- Governance
- Social Challenge
- Economic Development

Introduction to the subject. Meeting each other. Introduction to Biodiversity. Definition, elements, metrics, threats, status of conservation, importance. Global introductory connections to Health, Economy and Technology. Main online resources and institutions to explore.

Multimedia Material: Nature is Speaking (Youtube)

SESSIONS 3 - 4 (LIVE IN-PERSON)

Sustainability Topics:

- Environment
- Governance
- Social Challenge
- Economic Development

The current Biodiversity status and recent evolution. Categorization and the concept of extinction. The Aichi Biodiversity Targets and the UICN classification. WWF_Living Planet Report 2024

In this particular and intense session, we'll understand with more detail the latest concepts and the frame-work to have an holistic perception of the current global status with these two fundamental aspects: the concept of the Ecological footprint and the Planetary boundaries..

We'll complete our personal footprint to have a fully understanding of the indicator.

Article: Global Footprint Network researchers recognized with AASHE Sustainability Award (Global Footprint Network)

Article: Planetary boundaries (Stockholm University)

SESSIONS 5 - 6 (LIVE IN-PERSON)

Sustainability Topics:

- Environment
- Governance
- Social Challenge
- Economic Development

This session will reduce the popular perception of that the technology will "save us". Ecosystem Services, its definition, types, importance, values will open the real nature's dependencies.

Article: Ecosystems AND HUMAN WELL-BEING. Biodiversity Systems. (Millennium Ecosystem Assessment)

SESSIONS 7 - 8 (LIVE IN-PERSON)

Sustainability Topics:

- Environment
- Governance
- Social Challenge
- Economic Development

We'll explore in this interesting session different aspects of the Biodiversity economy. The Natural Capital dimension first and briefly and introduction to the Donough Economy and other bioeconomies. Topics such as biodiversity and health, sustainability certifications and supply chain will complete the theoretical contents. Finally an introduction to Biomimicry, innovation inspired by nature will illuminate how much nature can do for the sustainable and regenerative development with real market cases.

Article: Natural Capital Protocol (Natural Capital Coalition)

Article: Humanity's Biggest Challenges. Nature's Proven Solutions. (Biomimicry Institute)

SESSIONS 9 - 10 (LIVE IN-PERSON)

Sustainability Topics:

- Environment
- Governance
- Social Challenge
- Economic Development

During this specific and unique out-door sessions, the group with the professor supported by a team of expert ornitologists from an international NGO, will see closely the bird-ringing scientific methodology essential to the global monitorization of the migratory and resident birds. This face to face activity will give an emotional experience to the participants to this relevant group of the urban biodiversity organisms. The activity will take place in a public urban park where the experts capture and release birds from decades. **Don't miss it.**

This activity will be completed with a basic exercise from the students providing a proposal to enhance "science to citizen project".

SESSIONS 11 - 12 (LIVE IN-PERSON)

Sustainability Topics:

- Environment
- Governance
- Social Challenge
- Economic Development

A double session outdoors, students will visit actively an extraordinary and unique wild-life hospital facilities. Several different wild-life, mainly birds will be observed closely with specific explanations which will change the perception of the biodiversity issue.

SESSION 13 (LIVE IN-PERSON)

An affordable multiple choice test will be taken in class to evaluate the overall basic understanding and connections to most of the contents covered during the sessions including the outdoor classes. After the test, we'll review in class for a full comprehension. A personal lap-top with sane batteries will be required for this session.

SESSIONS 14 - 15 (LIVE IN-PERSON)

The class divided by teams, will prepare a conceptual proposal to develop a plan to a singular real project combining technology-education-research based in Spain. All the teams will have a limited time to share digitally their proposals to the rest of the class. The description, requirements of this assignment will be available for the students at the beginning of the classes in April.

EVALUATION CRITERIA

criteria	percentage	Learning Objectives	Comments
Class Participation	20 %		Active participation will help students to correct misunderstandings on the subject
Group Presentation	30 %		A digital presentation will connect different point of views enriching the proposal
Individual work	20 %		Personal analysis from different topics as well as for the teaming will fix contents
Final Exam	30 %		The test will validate the fundamental concepts covered during the classes

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.

