

TRASMARES

SPECIALIZED TRAINING ON APPLIED TOOLS
FOR SUSTAINABLE MARINE ECOSYSTEMS



TRAINING ITINERARY

This degree provides an integrated view of a highly relevant topic, the sustainability of coastal systems, through a multidisciplinary approach that combines novel and applied knowledge of marine ecology, environmental management and marine spatial planning.

- Introduce the most representative coastal ecosystems, their characteristics, functions and services, and the approaches currently used to analyse their distribution.
- Know the main needs of coastal populations, the activities developed by society to meet them, the consequences for the environment and for society itself and, finally, the possible strategies to reduce environmental damage and improve the benefit to human populations.
- Introduce the concept of Nature-based Solutions (NbS) with real-world marine and coastal examples,
- Present the legal framework that regulates the development of different activities in the coast and marine zone, some of the most representative coastal management tools and practical cases of real application throughout the world.



EVALUATION

- Online tests at the end of each module of each MOOC. The final mark for each MOOC will be obtained as the average mark of the different modules.
- Global test of the 3 MOOCs, previous and compulsory for the assignment of the Final Programme Work (TFP)
- Development and defense of the TFP.



MICROCREDENTIAL CONSISTS OF 4 COURSES + TFP

1. INNOVATIVE METHODS TO ASSESS THE DISTRIBUTION OF MARINE ECOSYSTEMS

1. Introduction to marine ecosystems
2. Marine ecosystem-characterization
3. Functions, services and benefits of marine ecosystems
4. Direct approaches to characterize the distribution of ecosystems
5. Indirect approaches to characterize the distribution of ecosystems

2. HUMAN ACTIVITIES AND VULNERABILITY OF MARINE ECOSYSTEMS

1. Introduction to DPSIR framework
2. Driving forces
3. Pressures
4. State changes
5. Impacts on societal welfare
6. Response by measures

3. NATURE-BASED SOLUTIONS AS PRO-ACTIVE APPROACHES TO CONSERVATION

1. Introduction to sustainable management of marine ecosystems and resources
2. From species to ecosystem conservation 3. Habitat restoration and its value as Nature based Solutions
3. Greening of man-made structures to support nature in the urban ocean
4. Incentivizing, financing and governing Nature based Solutions

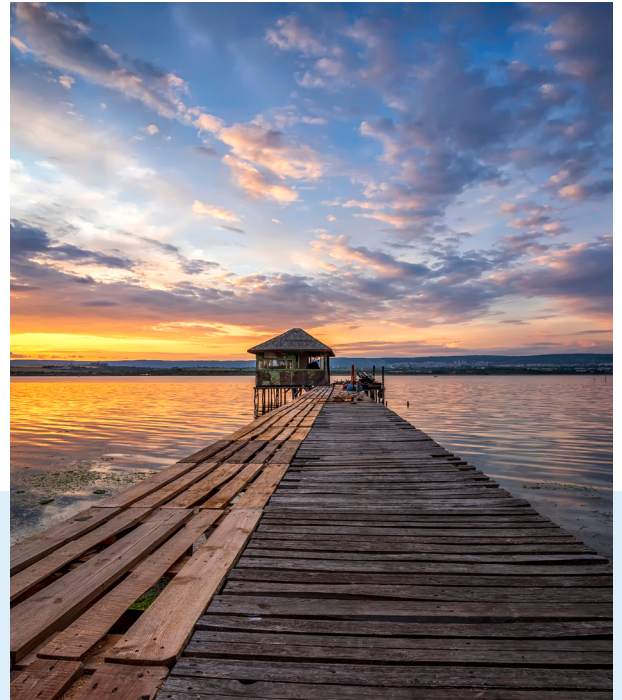
4. LAND-SEA-OCEAN INTERACTIONS: FROM COASTAL MANAGEMENT TO MARITIME SPATIAL PLANNING

1. Legal framework: from the Romans to the present day.
2. Conceptual framework
3. Integrated Coastal Zone Management
4. Marine Spatial Planning processes
5. Marine Spatial Planning in practiced distribution of ecosystems

TFP: FINAL PROGRAMME WORK

TEACHING MATERIALS

Teaching materials of this MOOC were co-created, under creative commons licence, in the TRASMARES project “Specialized training on applied tools for sustainable marine ecosystems”, funded by the EU ERASMUS+ programme (2019-1-ES01-KA203-065536, 2019-22) and developed through the collaboration of academics and researchers from the Environmental Hydraulics Institute of the University of Cantabria, coordinator of the project, the University of Bologna and the University of Coimbra.



AT A GLANCE

- **MODALITY:** Online itinerary (4 MOOCs)
- **DURATION:** About 20/30 hours per MOOC
- **FEE:** 375€
- **LANGUAGES:** English, with English, Spanish, Italian and Portuguese subtitles
- **PREREQUISITES:** None
- **TECHNICAL REQUIREMENTS:** Internet connectivity
- **CERTIFICATION:** UC University Microcredential