

ERASMUS BLENDED INTENSIVE PROGRAMME
MARINE ENVIRONMENTAL THREATS
Academic year 2023/24

UNIPV: University of Pavia, Italy (activities in presence)

UAc: University of Azores, Portugal (online activities)

UPV/EHU: University of Basque Country, Spain (online activities)

Course Programme

Pollution in the marine environment and its sources (3 ECTS; UPV/EHU and UNIPV)

- Chemical pollution (1 ECTS; UPV/EHU)
 - Destination, distribution and behaviour of different contaminants
 - Toxicological analysis and biological implications for marine organisms
 - Environmental risk assessment and environmental management:
 - *Training activity:*
 - Online training (group exercises)
- Marine microorganisms as biological indicators of pollution (1 ECTS; UNIPV)
 - Foraminifera as biological indicators of marine pollution
 - *Training activity:*
 - Laboratory activity with sediment samples
- Underwater sound pollution (1 ECTS; UNIPV)
 - Impacts and sources of underwater noise, mitigation actions
 - *Training activity:*
 - Fieldwork: Recording and measurements of underwater sounds and noise
 - Lab activity: analysis and visual display with spectrograms, visualization of noise measures

Climate change (1 ECTS; UNIPV)

- Climate change and ocean acidification: global patterns
 - Climate components, IPCC scenarios, model taxa
 - *Training activities*
 - Computer work: Applications of a Carbon Model

Marine bioinvasions (1 ECTS; UNIPV)

- Marine bio-pollution: the introduction of invasive species
 - Concept and implications of NIS (non-indigenous species)
 - *Training activities*
 - Field work: Sampling fouling communities in ports
 - Lab activities: Taxonomic identification of the main NIS species in ports samples

Environmental impact of fisheries (1 ECTS; UAc)

- General concepts on marine fisheries environmental issues and fisheries management
 - Overfishing
 - Destructive and disruptive fishing practices
 - Bycatch and Ghost Fishing
 - IUU Fishing – Illegal, Unreported and unregulated fishing activities
 - Countermeasures: Fisheries management and sustainable fisheries