UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Applied Geomorphology and Habitat

2223-1-F7502Q021

Aims

To provide knowledge on traditional and new advanced techniques used to characterise, map and model the distribution and extent of marine benthic habitats. To provide students with the necessary knowledge and practical experience to develop marine habitat maps; to identify and classify, when relevant, the main types of bioconstruction; to recognize the dominant habitat engineers and their relationship with the abiotic components, within an ecosystem approach.

Contents

This course deals with the geomorphological and geobiological characterization of benthic habitats, with an emphasis on marine benthic bioconstructions of the temperate Mediterranean Sea and the shallow water tropical reef environments. It focuses on field and remote observations of characteristic habitats and their multi-scale relationships with the associated abiotic components. Environmental issues, related to the role of habitat mapping and monitoring in marine ecosystem management, are explained and discussed using case histories.

Laboratory activities will offer the students the opportunity to use traditional and new advanced methods and techniques for mapping and modelling the distribution of marine benthic habitats.

Detailed program

Introduction to biogeomorphology: interplay between organisms and geomorphology in submerged environments. Mediterranean marine bioconstructions: from the shallow shelf to the bathyal zone. Examples of bioconstructions from tropical reef environments.

Applied submarine geomorphology for ecosystem-based management: the role of habitat mapping.

Habitat mapping, characterization and classification. The use of surrogates in habitat mapping practice. Habitat suitability models. Habitat mapping and ecosystem-based management.

Tutorials: Habitat mapping and habitat characterization techniques.

Prerequisites

Introduction to Marine Physical Geography, Geobiology, Invertebrate zoology (base level) or systematic and general Palaeontology

Teaching form

- Lessons: 2+2 credits

- Tutorials: 2 credits

Textbook and teaching resource

Seafloor Geomorphology as benthic habitat. 2011. Ed. by P.T.Harris and E.K. Baker. Elsevier.

A selection of scientific journal articles will be provided by the teachers.

Semester

Second

Assessment method

Practical tests and Oral examination

Practical test about habitat mapping on data and documents provided by the teachers.

Oral: short discussion about the lessons content and the practical tests.

Marks are given as n/30. Minimum positive value is 18/30

Office hours

To make an appointment, please contact the teachers by e-mail:

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Sustainable Development Goals

LIFE BELOW WATER