BREVE DESCRIZIONE DEL CORSO

Biodiversity and ecosystem functioning are tightly related. In this course, we will study how important are the concepts of biodiversity, demography and population dynamics, trophic ecology and life cycles, environmental factors and biochemical cycles in understanding pelagic and benthic system functioning. Once these concepts and the related methods to quantify such parameters are explained, we will make a wide spectra of systems (e.g. coral reefs, Mediterranean sea, polar areas, deep sea communities, etc.), stressors and impacts to understand how the functioning of the pelagic and benthic systems in the oceans are changing. Direct impacts such as fisheries, pollution or coast transformation will be analyzed. The synergistic path with indirect stressors such as rising temperatures, ocean acidification or sea level rise will be also studied to understand how deep is the change on the functioning of these ocean systems. Finally, we will give tools for management and conservation: new aquaculture methods, new fishery approaches, marine restoration and marine protected areas design and management guides to improve ecosystem functioning enhancing biodiversity and complexity.

PREREQUISITI

Fundamentals of general biology, zoology, botany and ecology are prerequisites to achieve high proficiency of this course.

OBIETTIVI FORMATIVI

The student has to achieve the biodiversity and ecosystem function concepts but, more important, she/he has to be capable to apply quantitative tools to asses such functionality. She/he has to have at hand conservation and management measures/tools to confront real conservation/regulation measures.

METODI DIDATTICI

The six credits are based on theoretical and practical concepts, with an open debate during the classroom.
MODALITA' D'ESAME

The achievement of the credits attributed to teaching is obtained through an oral exam: four questions of the different developed concepts. Four perfect answers will give 28/30 punctuation. To reach the maximum score, before starting the oral exam, the student has to make a brief presentation based on a paper, book chapter or review related with the marine biodiversity and ecosystem functioning subject. The choice of the text to make the presentation is free.

APPELLI D'ESAME

ALTRE INFORMAZIONI UTILI

PROGRAMMA ESTESO


TESTI DI RIFERIMENTO

All the material will be provided by the teacher in form of selected books, reviews and scientific papers