



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## COURSE SYLLABUS

### Fundamentals of Marine Biology

2021-1-F7502Q037

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#### Aims

This course examines different biological and ecological aspects and processes of ocean ecosystems. Topics include the distributions, abundances, life habits and interactions of marine organisms characterizing the main zones and the different systems of the marine environment. The impact of multiple stressors and the problems affecting the marine habitats are also discussed.

#### Contents

Processes of marine organisms, Marine systems and habitats, Functioning of Marine Ecosystems

#### Detailed program

##### [Introduction to the course](#)

What is marine biology and why it matters; history of marine biology; the scientific method

##### **Patterns in the marine environment**

Biogeography, biodiversity, abundance and size

##### **The marine environment**

World oceans; structure of the ocean floor; chemical and physical properties of seawater; ocean circulation; life in a fluid medium; primary and secondary production

### **Classification and characteristics of the marine environments**

General classification of marine environments; benthic life habits; benthic environments: tidelands (rocky shores, soft-substratum shores, marshes, mangroves, estuaries); sea grass beds, seaweed and kelp forests, rocky reefs, coral reefs; continental shelf seabed; deep sea; polar regions; pelagic environments and pelagic life habits

### **Introduction to impacts**

Fisheries and aquaculture; pollution and climate change; conservation

### **Present and future of marine biology**

Main recent lines of research in marine biology

**Seminars** – to be defined

### **Prerequisites**

None

### **Teaching form**

Lessons (4 credits - Dr. Davide Maggioni)

Tutorials (2 credits - Dr. Davide Seveso)

During the COVID-19 restrictions the lessons will be recorded and available online, with some live events that will be planned and communicated on e-learning

### **Textbook and teaching resource**

#### **PowerPoint slides**

**Marine Biology: Function, Biodiversity, Ecology** (3<sup>rd</sup> edition). Jeffrey S. Levinton, Oxford University Press

**Marine Ecology: Processes, Systems, and Impacts** (2<sup>nd</sup> edition). Michel J. Kaiser et al., Oxford University Press

[Marine Biology \(10<sup>th</sup> edition\). Peter Castro & Michael E. Huber, McGraw Hill Higher Education](#)

## **Semester**

First semester

## **Assessment method**

Oral examination

Mark range: 18-30/30

During the Covid-19 restrictions the oral exams will be exclusively through the WebEx platform. A public link will be posted on the e-learning page for the access of virtual public

## **Office hours**

By appointment by sending an email to the lecturer

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