UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

# COURSE SYLLABUS

# Paleontology

**2021-2-E3401Q006**

## Aims

Basic knowledge on the use of fossils in sedimentary geology.

## Contents

Lectures (5 ECTS)

Fossils.
Fossilization and taphonomy: biostratinomy and diagenesis.
Principles of Paleoecology.
Introduction to Biogeography and Paleobiogeography.
Principles of Stratigraphy and Biostratigraphy.
Systematic paleontology: the main systematic groups of marine invertebrates.
Biological evolution: contribution of paleontology.

Laboratory (2 ECTS): identification of diagnostic characters of different groups of fossil invertebrates.

Field activity (1 ECTS).

## Detailed program

General Objectives

Lectures (5 ECTS:). Types of fossils: body fossils, molds and casts, trace fossils. Information obtained from fossils. Species concept: variation of the species; species nomenclature and typification.
Biostratinomy and diagenesis. Processes of fossilization: types of fossils resulting from the processes.
Principles of paleoecology. Ecological factors. Biogeography and Paleobiogeography: concepts, processes and objectives. Areal distributions. Endemism. Conceptual approaches to biogeography. The dispersion and diffusion. Types of dispersion. Stratigraphy and biostratigraphy: concepts and aims. Units in biostratigraphy. Operation in biostratigraphy and examples of biozones. Biostratigraphical correlations.
Overview of main systematic groups of marine invertebrates 1) the recognition elements, b) stratigraphic evolutionary history and significance, c) paleoecology. The following taxa will be presented: "Protista", Porifera, Coelenterata, Bryozoa, Brachiopoda, Mollusca, Echinodermata, Arthropoda and Hemichordata. Biological evolution: the contribution of paleontology.

Laboratory (2 credit). It consists of practicals, based on the examination of fossils in the didactic collection, aimed at recognizing the diagnostic characters of the different taxa. Significance and use of the tables of stratigraphic distribution of fossils.

Field activities (1 credit). One day trip at important fossiliferous sites. The student is required to produce a personal report of this activity.

## Prerequisites

-Principles of geology

## Teaching form

The language of the teaching is Italian

- Lectures, 5 ECTS:

- Laboratory, 2 ECTS

- Field Laboratory, 1 ECTS

During the COVID-19 restrictions the lectures will be recorded and available online, with some live events that will be planned and communicated on e-learning. The lab will be held in presence.

## Textbook and teaching resource

Allasinaz A., 1999, Invertebrati fossili. UTET, Torino.

Raffi S. & Serpagli E., 1993, Introduzione alla Paleontologia, UTET, Torino.

Slides provided during the lessons.

## Semester

II year, I semester

## Assessment method

- Intermediate tests at the end of the main lesson topics

- Test of fossils identification and biostratigraphy (biozone identification)

- Report about the field trip

- Oral examination

During the COVID-19 restrictions the exams will be held online through the WebEx platform. A link will be available on the e-learning page for the public access to the exam.

## Office hours

To make an appointment, please write to the professor:

daniela.basso@unimib.it