



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## SYLLABUS DEL CORSO

### Zoologia

2021-1-E1301Q011

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#### Aims

The main aim is to observe the organization, functioning and evolution of the animals. In particular: 1. Knowledge and understanding

The student will gain knowledge about the organization of animal bodies, how they work and the evolutionary origins.

2. Applying knowledge and understanding

The student will be able to identify the main animal groups and to know the basic of their functions.

3. Making judgements

The student will be able to process the acquired knowledge in the recognition and functioning of animals.

4. Communication skills

Use of an appropriate scientific vocabulary and show ability in oral reports.

5. Learning skills

Skills in reading and understanding the subsequent studies when the prerequisite is the knowledge of how the animal body works.

#### Contents

Zoology is the study of animals. There are many ways to study zoology. The course of Zoology in our degree is not particularly focused on taxonomy, that is obviously present, but limited at the essential aspects. The focus of the course is instead the evolution of the body plans of animals. The course could be considered as a comparative zoology, in which each system will be observed during its evolution in the natural history of living beings.

## Detailed program

Introduction. What is zoology?

Evolution of living beings. Homology and analogy.

Evolution of multicellularity.

Animal bauplan. Models of body evolution in Metazoa. Symmetry. Body cavities. Metamery. Cephalization.

Animal diversity: "protozoans"; poriferans; appearance and evolution of multicellularity; cnidarians; ctenophores; flat worms; pseudocoelomate (nematodes and rotifers); mollusks; annelids; panarthropods; lophophorates; echinoderms; origin and evolution of chordates; evolution of vertebrates.

Comparative zoology. Evolution and differentiation of systems.

## Prerequisites

Basic knowledges in biology, cytology and histology.

## Teaching form

Frontal lessons and obligatory practical laboratories. Tutoring available.

During the Covid-19 emergency, the frontal lessons will be given to relatively small and separate groups of students. These groups will be hosted for a whole week and the groups will be flipped among the weeks. All the lessons will be recorded and made available.

In addition, students will be supported with recorded materials by the teacher. These further lessons will be made available through the e-learning platform.

Experiences in laboratory during the emergency will be reduced in numbers and substituted with remote activities.

## Textbook and teaching resource

Text book: Casiraghi et al. "Zoologia" – UTET - De Agostini.

Diapositives and videos shown at lessons available on the e-learning platform.

For a better study it is better to observe many animal and structure photographs. It is easy to get those images using the image search in all the browsers and YouTube.

To study the Italian biodiversity: <http://www.faunaitalia.it/>

Many infos about evolution are available here: <http://pikaia.eu/>

## Semester

First semester

## Assessment method

During Covid-19 emergency there will be oral examination through web resources only.

In Moodle e-learning will be published the open link \_\_\_\_\_

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### **Office hours**

On appointment; mail to: [maurizio.casiraghi@unimib.it](mailto:maurizio.casiraghi@unimib.it)

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