



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Didattica e metodologie didattiche e laboratoriali della Biologia: dalla cellula agli organismi - Modulo A

2526-A50-FIA50006

Title

TRAINING COURSE FOR TEACHERS OF THE A50 COMPETITIVE CLASS

Course of DIDACTICS, AND LABORATORY METHODOLOGIES AND DIDACTICS IN BIOLOGY: FROM CELLS TO ORGANISMS - Module A

Teacher(s)

Professor Chiara Urani

Language

Italian

Short description

PURPOSE AND STRUCTURE

The course aims to: i) cover some of the fundamentals of Biology and address conceptual issues from a methodological perspective that can be applied to other topics and contexts within the discipline; ii) provide

teaching tools, scientific language, and examples of teaching and laboratory methodologies for teaching Biology; iii) stimulate connections within the discipline itself and with other disciplines.

The course is structured around the presentation of examples of teaching approaches within the following topics:

- Concept of life and the emergence of the first cells
- Eukaryotic cells
- Cellular organization
- Autotrophic and heterotrophic organisms
- Metabolism: from cells to organ systems

Various teaching methodologies will be used to introduce the course or to describe the topics, or to facilitate discussions or in-depth analysis.

Prerequisites

Basic knowledge of Biology will be considered acquired, and references will be provided for possible integration or review of the content.

Teaching Materials

Teaching materials will be indicated and provided (lecture slides, article references, essay or novel suggestions, and any additional resources and materials for further study).

Recommended Readings

- Biologia di Sadava, Hillis, Heller, Hacker – Zanichelli (2019): volume 1 La cellula; volume 2 L'ereditarietà e il genoma; volume 3 L'evoluzione e la biodiversità; volume 4 - L'evoluzione e la biodiversità; volume 5 La biologia degli animali; volume 6 L'ecologia.
- Elementi di Biologia e Genetica di Sadava, Hillis, Heller, Hacker – Zanichelli.
 - Principi di Biologia di Sadava et al., - Zanichelli (2021)
 - Biologia – Come funziona la vita – di Morris et al., - Zanichelli (2021)
 - Biologia di Solomon et al., - EdiSES edizione 7
 - La didattica delle materie STEM – Insegnare discipline scientifiche nella scuola secondaria di E. Barbuto – EdiSES (2022)
 - Metodi e strumenti per l'insegnamento e l'apprendimento della biologia di Padoa Schioppa – EdiSES (2015).

CFU / Hours

1 CFU = 6 hours

Teaching period

April - May

Sustainable Development Goals

QUALITY EDUCATION
