UNIVERSITÀ DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Complessità Biologica

2425-1-F0601Q110-F0601Q113M

Aims

Knowledge and understanding: The teaching module aims to provide an integrated vision of the environmental and ecological factors that contribute to both the well-being of biodiversity and that of man. The ultimate aim is to acquire solid skills for a critical analysis of the functional relationships of ecosystems which contribute, thanks to ecosystem services, to improving human well-being also thanks to the production of bioactive molecules at the basis of medicines, foods and supplements.

Applied knowledge and understanding: Thanks to the laboratory experience, the student will acquire ecological-environmental and biodiversity analysis skills in an operational environment and will acquire practical knowledge in the laboratory on bioactive molecules and their biological effects thanks to specific chemical and biochemical tests.

Making judgements: Interpreting ecosystem complexity and functional relationships between living organisms including humans. Knowing how to identify elements that disturb and support ecosystem services. Knowing how to acquire valuable elements of biodiversity

Communication Skills: the course aims to provide the student with the skills to communicate effectively, appropriately and with adequate specific language, the concepts relating to ecosystem biological complexity also in relation to human well-being.

Ability to learn: at the end of the course the student must be able to independently delve into the issues of ecosystem complexity in different environmental and territorial contexts in a one health perspective.

Invia commenti

Contents

This laboratory module is aimed at the analysis of different types of ecosystems with different degrees of complexity and environmental and anthropic criticality to evaluate strategies for improvement, strengthening and to build resilient communities.

Detailed program

The course will take place entirely in an operational environment through daily or multi-day excursions in different ecosystem contexts. Specifically, the aim is to analyze different biomes, typical of the national context, such as the Mediterranean scrub and the lowland forest. From a technical point of view, the laboratory provides for the ecosystem framework with particular reference to the analysis of flora and vegetation and with some elements of fauna that characterize certain environments.

Analysis of native and exotic species, study of species distribution and their temporal evolution. Characterization of protected areas, natural and naturalized areas and parks and / or reserves also in an urban context. Effects of biodiversity on environmental components: temperature, water, resource cycle. Stress factor analysis. Elements of active and passive bioindication. Analysis of the relationship between biodiversity and personal well-being.

Prerequisites

Knowledge of general botany

Teaching form

- 1/5 of the lessons will be carried out in delivery mode (delivery teaching, DE) focused on the presentation of the laboratory contents
- 4/5 of the lessons will be carried out in an interactive way through field experiences that include daily and multi-day excursions

Textbook and teaching resource

The slides shown in class are provided on the e-learning platform.

Semester

Second semester

Assessment method

The oral exam aims to verify the acquisition of the knowledge foreseen in the course objectives and will consist of oral questions, aimed at ascertaining the understanding of the topics covered.
There are no intermediate evaluation tests during the course but only a final exam.
Evaluation Criteria: scientific and technical knowledge of the topics considered in the course, critical and individual re-elaboration skills, communication skills and correct use of technical language.

Office hours

By appointment by writing to the reference teachers

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING | SUSTAINABLE CITIES AND COMMUNITIES | CLIMATE ACTION | LIFE ON LAND