UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Botany

2122-2-E1301Q063

Aims

Knowledge and understanding: the course aims to provide the cytological, histological and anatomical bases to learn about plants and their biological characteristics.

Applying Knowledge and understanding: the course will deepen the use of the optical microscope for histological and anatomical analysis of plant.

Making judgments: Collect and interpret the relevant data regarding the structure and function of the plants.

Communication skills: the course aims to provide the skills to communicate effectively, appropriately and with specific language, the concepts learned during the course.

Learning skills: At the end of the course the student must be able to study in depth the topics covered in the course, also by consulting specific bibliography texts.

Contents

The plant cell;

Plant tissues and their characteristics;

The plant organs

Short evolutionary history of plant

Detailed program

Peculiar characteristics of plant organisms. Heterotrophy and autotrophy. General organization of the plant cell. Peculiarities and characteristics of plant cells: plastid, vacuole and cell wall. The plant tissues: meristematic, tegumental, fundamental and vascular. The plant organs: stem, leaves and roots. Structure and function of the plant organs and their structural and functional modifications. Organization and development of roots and shoots. Reproduction in plants: vegetative, asexual and sexual. The organs for diffusion of the species. Plant metagenetic cycles and their evolution. Briefly history of plant evolution from bryophytes to angiosperms.

Prerequisites

None

Teaching form

Frontal lessons and laboratory exercises about plant histology and anatomy

The laboratory exercises will take place in according to the calendar that will be discussed during the first lessions

Textbook and teaching resource

Diapos showed at lessons are available on the e-learning platform.

Suggested books

- Raven P.H., Evert R.F., Eichorn. S.E. Biologia delle Piante. Zanichelli ed.

- Pasqua G., Abbate G., Forni C. Botanica generale e biodiversità vegetale. Piccin ed.

- Mauseth JD., Botanica- Parte generale. Idelson Gnocchi ed.

Semester

First semester

Assessment method

The oral exam will evaluate the student's knowledge about the plant biology at three different levels: citology, histology and plant anatomy.

Usually, during the exam student will have to answer 4-5 questions. The first is an open question on a general topic of the course to evaluate the study method adopted to the student and the level of details pursued. The 2-3th questions are direct to the plant structures (acquired during laboratory exercises) and their functions. Finally, the 4-5th questions are dedicated to evaluate the ability of the student in the critical re-elaboration of the acquired knowledge.

Evaluation criteria: scientific and technical knowledge about plant structure and function, ability of the student to describe plant structure starting from plant histology and anatomy images and in the critical re-elaboration of the acquired knowledge as well as scientific language usage.

Office hours

On appointment; mail to: fabrizio.grassi@unimib.it