UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Microbiology Laboratory

2627-3-E1301Q084-E1301Q091M

Aims

The Microbiology module provides competences and skills in the basis of microbiological techniques applied to selection and identification of bacteria 1. Knowledge and understanding. Knowledge of the basis of Microbiology 2. Applying knowledge and understanding. At the end of the course the student will be able to apply the knowledge acquired in the selection and identification of bacteria. 3. Making judgment. The student will be able to elaborate the knowledge in microbiological procedures and problems. 4. Communication skills. At the end of the course the student will be able to write experimental reports with microbiological vocabulary5. Learning skills. The student will be able to apply the acquired knowledge in experiments concerning microbiology.

Contents

Notions will be presented concerning the isolation and the identification of bacteria, microbial growth, characterization of microbial activities

Detailed program

The following procedures will be presented: 1) Isolation and identification of bacteria from different samples; Gram test to discriminate Gram-positive bacteria from Gram-negative bacteria; 2) Biochemistry Tests to characterized the isolated bacteria in terms of relation with oxygen, pH of the medium, and presence of oxidative systems for aerobic condition; 3) Microbial growth and determination of number of bacteria on plates; 4) Antimicrobial activity in presence of the main antibiotics and some products with synthesized by the students during the organic chemistry

Prerequisites

General notions of Organic chemistry, biochemistry and Molecula Biology

Teaching form

The course will be erogated by interactive didattic (DI) by experimental activities in equipped labs.

Textbook and teaching resource

Slides and experimental protocols will be provided to students at the beginning of the teaching activity, and uploaded on the moodle teaching Platform.

Semester

First semester

Assessment method

For the Microbiologia module, as for all LIB teaching modules, there is no possibility of taking partial or "module" exams. The method of verifying the entire teaching is a single written test aimed at assessing the skills acquired for each of the 6 modules that make up the course. In itinere no examination is planned.
The written test lasts 2 hours and takes place in the computer laboratories, using a PC on a dedicated computer platform. The test consists of closed questions (exercises, multiple choice questions) on the disciplinary contents of all the modules, and a single open question on the disciplinary contents of one module. The closed questions of each module allow to acquire a maximum of 10 points. The overall result on the closed questions of the 6 modules is converted into a maximum score of 29 (automatically assigned by the system at the end of the test); the score of the open question is from 0 to 2 points, following a correction by one of the teachers. The open question will be evaluated only upon reaching a minimum score assigned to the closed questions. The overall score is given in thirtieths and is obtained by adding the two scores (for "closed" answers and for "open" answer). An overall score ?30.5 allows to obtain honors.

Office hours

The teachers will receive by appointment requested by e-mail:
patrizia.digennaro@unimib.it

Sustainable Development Goals

QUALITY EDUCATION | LIFE ON LAND