UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Technologies For Biotechnologies

2122-2-E0201Q052

Aims

The course is divided into five distinct units, or teaching modules, which offer a series of practical experiences in the fields of genetics, microbiology, biochemistry, immunology, molecular biology. The objectives of each discipline are presented in the Syllabus dedicated to each teaching module. The general objectives, common to the various teaching modules are the following:
Knowledge and understanding. At the end of the course, students are expected to consolidate and deepen basic knowledge of theoretical, technical and methodological issues alredy presented by frontal courses.
Applying knowledge and understanding. At the end of the course, students are expected to correctly interpret the experimental protocols already used, recognize their salient aspects, collect and process experimental data.
Making judgments. Among the objectives of the course, there is the development of a critical vision of the experimental design and of the results achieved. Students should recognize when and how it is appropriate to apply experimental procedures and data processing methods learned during the course.
Communication skills. At the end of the course, students will be able to process experimental data obtained and present them in the most appropriate way (graphs, tables, numerical indexes, etc.). It is expected that students can describe the results achieved in an appropriate language and with the technical terms, typical of each subject area covered by the teaching.
Learning skills. Students will be able to correctly interpret experimental protocols similar to those already practically performed, in contexts different from those already faced during practical laboratory experiences.
It is also expected that this experience will increase student's interest in research activities and awareness in scientific aptitudes.

Contents

The whole course (150 h, 15 ECTS) consists of 5 modules or learning units. Each learning unit (30 hours) deals with issues and techniques typical of the following subjects: Genetics, Microbiology, Biochemistry, Immunology and Molecular Biology. For a more detailed description of course content, please, refer to the Syllabus of each learning

unit

Detailed program

See the Syllabus of each learning unit

Prerequisites

Background: See the Syllabus of each learning unit
Specific prerequisites: none
General prerequisites: Students can take the exams of the second year after passing the examinations of Introductory Biology, General and inorganic Chemistry, Mathematics, and Foreign Language.

Teaching form

Learning units (30 h, 3 ECTS) are addressed to a group of 40-45 students, through laboratory practical lessons held in teaching laboratories. At the beginning of each lesson, basics, aims, and experimental design will be exposed. At the end of each module, an overall discussion of collected results may take place in a different classroom. For further details, please, refer to the lesson calendar of Biotechnology program and to the Syllabus of each learning unit.
Teaching language: italian.

Textbook and teaching resource

Introductory lessons and method booklets provided also as files by teachers of learning units.

Semester

Second semester.

Assessment method

The overall exam of the LTA course consists of 5 partial, written examinations, usually scheduled at independent times and accessible as soon as the practical session has ended. Written exam (1-2 hours) may contain problems, exercises, open or multiple-choice questions. For more information, please refer to the Syllabus of each learning unit.
Passed examinations receive a mark from 18 to 30 (without honors). The final mark, valid for the overall LTA

course, is calculated as the average of the evaluations obtained for the partial examination marks. Honors can be received whenever all of the partial examination marks are 30.

Office hours

Meetings with each teacher can be scheduled by e-mail.