UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Tirocinio Professionalizzante Area Odontoiatrica 1

1819-2-H4601D029

Aims

Students must accomplish a general knowledge of the main laboratory techniques, in particular nucleic acid and protein analysis, cell culture, PCR, flow cytometry and histological analysis. As a final goal, the students will be able to read and understand the experimental procedures described in a paper on basic dentistry research.

Contents

The course provides the students with the knowledge of the basic principles of the main techniques for cellular, molecular and histological analysis.

Detailed program

Cell Culture: types of cell cultures, how to obtain and maintain them. Techniques, materials and instruments. Applications.

Protein analysis: how to obtain a protein sample, analysis methods.

Nucleic acid analysis: techniques for RNA and DNA analysis, how to isolate and preserve the samples. PCR and real time PCR.

Flow cytometry: basic principles and applications.

Stem cells:definition and characterization, mainly on the stem cells from oral tissues.

Histology: how to process and analyse samples for histochemistry, immunohistochemistry, immunofluorescence and electron microscopy analysis.

Laboratorypractice: students will follow some of the procedures described in thetheoretical part.

Prerequisites

Passing exams in the disciplines relevant to apprenticeship.

Teaching form

Lectures on the principles of the different techniques and laboratory training.

Textbook and teaching resource

The teachers will provide slides of the lectures.

Semester

Second semester of the second year.

Assessment method

Students must take part at least at 70% of the course. The final test will be a multiple-choice quiz on the topics of the course and on a research paper selected by the teachers and previously provided to the students.

Office hours

Monday to Friday, by appointment