UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

# COURSE SYLLABUS

# Pathology Laboratory

**2122-2-H4601D005-H4601D020M**

## Aims

The laboratory of Pathology wants to contribute in the preparation of expert odontologists by the acquisition of:

- General Pathology: knowledge of cellular and molecular aspects of etiopathogenesis of pathological processes and alterations of control mechanisms of cellular homeostasis.

- Clinical Pathology: knowledge of meaning of laboratory tests, their clinical and scientific relevance and their appropriate use.

## Contents

The laboratory of Pathology will provide:

- for General Pathology: the possibility to observe as nowadays the cellular and molecular approach is fundamental for developing the knowledges of etiopathogenesis of the different pathological situations, as described in the General Pathology course.

-for Clinical Pathology: the possibility -to observe the workflow, from receipt of samples to production of medical report. -To become aware about the contribution of clinical laboratory in promoting health at the level of prevention, diagnosis and cure. -To evidence the fundamental role of the health operator for the appropriate prescription and interpretation of laboratory tests.

## Detailed program

- General Pathology: observation of cell line cultures and of primary cell cutìltures; plating of cells collected from the buccal cavity. Cell count and staining of cultured cells. Extraction of cellular nucleic acids and proteins; evaluation of gene expression by PCR , western blot, FACS. Evaluation of gene rearrangements by PCR.

- Clinical Pathology: Instruction to require a laboratory test; observation of workflow of receipt of samples, carry out of routine and emergency tests: Blood gas analysis, Enzymes, electrolytes, Markers of myocardial necrosis, fertility, neoplasia, Hormones, Protein electrophoresis. Blood count. Coagulation tests. Blood groups, manual and automatic tehnique. Storage and utilization of blood components.

## Prerequisites

Knowledge concerning the previous preparatory courses.

## Teaching form

Laboratory stages.

Lessons will be in attendance, subject to any ministerial changes following the COVID pandemic situation.

## Textbook and teaching resource

- Pontieri, Russo, Frati - Patologia Generale - V ed. - Piccin

- Robbins e Cotran - Le basi patologiche delle malattie - IX ed. - Elsevier;

- Majno e Joris - Cellule, tessuti e malattia - I principi della Patologia Generale - Casa Editrice Ambrosiana;

- Abbas A.B., Lichtman A.H. Fondamenti di Immunologia. Funzioni e alterazioni del sistema immunitario. Piccin.

- Burtis -Tietz - Textbook of Clinical Chemistry and Molecular Diagnostics Ed Saunders 2006

- Henry – Clinical diagnosis and management by laboratory methods Ed Saunders 2007

- Hovanitz – Laboratory Medicine Ed. Churchill Livingstone 1991

## Semester

Second semester of the second year of course.

## Assessment method

Oral examination.

The oral examination will be preceded by a written multiple-choice test, comprising 90 questions with only one correct answer (among 4), aimed at evaluating global comprehension of microbiology program. The text will be passed with 51 exact answers, the value of each exact answer is 0.35 point.

The oral examination consists in the discussion of the remaining part of the integrated course, aimed at verifying the student ability to make connections and provide details. The final score will be the weighted mean of the two tests.

Exams will be in attendance, subject to any ministerial changes following the COVID pandemic situation.

## Office hours

By appointment.