



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## SYLLABUS DEL CORSO

### Clerkship 3

2324-2-H4102D017

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#### Aims

The course aims to provide the student with the fundamental principles and knowledge for requesting microbiological investigations and for the interpretation laboratory results for the clinical management of patients and the treatment of infectious diseases. Clerkship 3 activities will take place both in the laboratory and in interactive sessions in small groups for the discussion and interpretation of clinical cases and of results of laboratory investigations through "Case Based Learning".

#### Contents

Laboratory methods for the diagnosis of infectious diseases.

Laboratory methods for evaluating bacterial susceptibility to antimicrobial agents.

Phenotypic and genotypic methods for microbial characterization and typing.

Interpretation of Clinical Microbiology laboratory results.

#### Detailed program

Laboratory methods for the diagnosis of infectious diseases:

- different microbial "in vitro" growth characteristics and media requirements
- methods for microbial culture, isolation and identification

-microbial staining methods

-molecular methods for microbial and/or toxins detection

Laboratory methods for evaluating bacterial susceptibility to antimicrobial agents:

-Antibiogram / E-test

-Determination of Minimum inhibitory and/or bactericidal concentrations (MIC and/or MBC)

Methods for microbial characterization and typing:

-Phenotypic methods such microbial biochemical, plasmidic and/or antibiotic susceptibility profiles;

-Genotypic methods such restriction fragment length polymorphism (RFLP) analysis, Pulse-field gel electrophoresis (PFGE), multi-locus sequence typing (MLST).

## **Prerequisites**

Knowledge on the content of the Microbiology and Virology module of the course on Basic Pathology.

## **Teaching form**

Teaching in the laboratory and seminars in small groups for the discussion of clinical cases and relative laboratory results.

## **Textbook and teaching resource**

Sherris "Microbiologia Medica", EMSI.

Patrick R. Murray, Ken S. Rosenthal, Michael A. Pfaller "Medical Microbiology", Elsevier.

## **Semester**

Second semester of the 2° year of the degree course.

## **Assessment method**

The assessment of the acquisition of the skills by the students will be based on:

- the evaluation of the activities in small groups during seminar sessions and laboratory practical teaching;
- assessment of the acquisition by the students of skills relative to the request of microbiological investigations and interpretation of laboratory results through the use of clinical cases or "Case Based Learning"
- indepth assesment of the acquires competences and skills through interactive discussions in small groups on topics related to microbiological laboratory diagnostics.

## **Office hours**

Appointment on request

## **Sustainable Development Goals**

GOOD HEALTH AND WELL-BEING

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