UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Clinical Microbiology

2425-2-I0302D009-I0302D031M

Aims

To provide basic knowledge and diagnostic techniques of clinical microbiology.

To provide the knowledge of main routes of transmission of zoonotic diseases and of analytical methods for the diagnosis in biomedical and veterinary laboratories.

Contents

Classification and identification of bacteria.

Basic knowledge of infectious diseases.

Main bacterial pathogens among Gram-positive and Gram-negative bacteria, aerobic and anaerobic bacteria, Mycobacterium spp and pathogenic fungi.

Collection, transportation and treatment of biological samples. Techniques of culture, identification, interpretation.

Diagnosis of bacterial, viral, parasitical, fungal infections.

Antibiograms and their interpretation according to EUCAST.

Quality controls: CQI and VEQ in Clinical Microbiology lab.

The biological risk in Microbiology lab.

Methods for the diagnosis of infectious diseases in the biomedical and veterinary laboratories.

Definition and classification of zoonoses, main diffusion routes.

Role of the laboratory technician in the microbiological diagnosis.

Detailed program

- Classification and identification of bacteria.
- Basic knowledge of infectious diseases.
- Main Gram-positive and Gram-negative pathogenic bacteria, aerobic and anaerobic bacteria.
- Antibiograms, MIC determinations and their interpretation according to EUCAST.
- Diagnosis of bacterial, viral, parasitical, fungal infections.
- Classification and identification of bacteria.
- Basic knowledge of infectious diseases.
- Collection, transportation and treatment of biological samples.
- Techniques of culture, identification, interpretation.
- Quality controls: CQI and VEQ in Clinical Microbiology lab.
- Alert study, infectious diseases and nosocomial infections.
- The biological risk in Microbiology lab.
- Study of pathogens, in human and veterinary medicine, applied to laboratory diagnosis.
- Definition and classification of zoonoses, main diffusion routes. Role of the laboratory technician in the diagnosis of zoonosis.
- Diagnosis of bacteria, viral, parasitic or mycotic infectious diseases in relation to different biological samples.

Prerequisites

Teaching form

- 12 2-hours lessons carried out in delivery mode

Textbook and teaching resource

Eudes Lanciotti - Microbiologia Clinica - V edizione - CEA Casa Editrice Ambrosiana

E. W.Koneman, S.D.Allen, W.M.Janda, Introduzione alla Microbiologia, Antonio Delfino Editore.

Antonelli, Clementi, Pozzi, Rossolini - Principi di Microbiologia Medica - IV edizione - CEA Casa Editrice Ambrosiana

SOPs consultabili sul sito della Health Protection Agency, all’indirizzo:
http://www.hpa-standardmethods.org.uk/pdf_sops.asp

AMCLI Percorsi diagnostici

EUCAST www.eucast.org

M.Scaglia, S.Gatti, E.G. Rondanelli PARASSITI E PARASSITOSI UMANE Selecta Medica

F.Bernieri, D.Crotti, D.Galli, A.Raglio MANUALE ILLUSTRATO DI DIAGNOSTICA PARASSITOLOGICA Bio-Dev

I.De Carneri PARASSITOLOGIA GENERALE E UMANA Casa Editrice Ambrosiana

Semester

First semester

Assessment method

Written test and oral test: Candidates will elaborate 2 open questions to check their preparation on the exam program, on their independent reflection skills, on their problem solving skills. The subsequent oral interview will focus mainly on the completed tasks. Time for the written test: 2 hours. Score awarded: up to a maximum of 15 points for each topic.

Office hours

By appointement

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING | QUALITY EDUCATION | PARTNERSHIPS FOR THE GOALS