



VIROLOGIC AND MICROBIOLOGIC DIAGNOSTICS

Enrollment year	2020/2021
Academic year	2021/2022
Regulations	DM270
Academic discipline	MED/07 (MICROBIOLOGY AND CLINICAL MICROBIOLOGY)
Department	DEPARTMENT OF MOLECULAR MEDICINE
Course	MEDICAL AND PHARMACEUTICAL TECHNOLOGIES
Curriculum	Medico: Biotecnologie mediche e ricerca biomedica
Year of study	2°
Period	1st semester (04/10/2021 - 21/01/2022)
ECTS	6
Lesson hours	48 lesson hours
Language	Italian
Activity type	WRITTEN AND ORAL TEST
Teacher	BALDANTI FAUSTO - 3 ECTS MIGLIAVACCA ROBERTA - 3 ECTS
Prerequisites	
Learning outcomes	<p>The course aims to provide the methodological tools needed to:</p> <ul style="list-style-type: none">- correlate the composition, structure and physiology of microorganisms with the onset and evolution of infection diseases;- understand the methodological approach in diagnosing infectious diseases;- Understand the role of the various microorganisms in human pathology (infection diseases).
Course contents	<p>Prof. R. Migliavacca</p> <p>Will be discussed the main conventional diagnostic and executive protocols useful for the research of the most important clinically and epidemiologically important microorganisms, etiologic agents of:</p> <ul style="list-style-type: none">- Skin infections

- Infections of the genitourinary urinary tract (*Escherichia coli* uropatogenes, *Neisseria gonorrhoeae*, *Chlamidia trachomatis*, *Treponema pallidum*)
- Infections of the gastrointestinal tract (*Helicobacter pylori*, *Enterobacteria*, *Clostridium difficile*)
- Infections of the upper and lower respiratory tract (*Streptococcus* spp., *Legionella pneumophila*, *Haemophilus influenzae*, *Mycoplasma pneumoniae*, *Corynebacterium diphtheriae*)
- Sepsis (*Staphylococcus aureus*, *E. coli*)
- Nosocomial infections (*Acinetobacter baumannii*, *Pseudomonas aeruginosa*)

The main methods of bacterial typing will also be discussed (PFGE, MLST, etc.)

We will analyze diagnostic protocols for antibiotic resistance to beta-lactams, quinolones, macrolides and glycopeptides, and the genetic basis of bacterial resistance.

Pathogenetic mechanisms, host-parasitic interactions (adhesiveness, invasiveness, biofilm production) and genetic aspects of microbial virulence will be identified as new targets for design, research and development of new antimicrobial drugs and vaccines.

Teaching methods

Fontal teaching

Reccomended or required readings

"Microbiologia medica" P. Murray, K.S. Rosenthal, M.A. Pfaller. Elsevier

Assessment methods

Written test

Further information

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Sustainable development goals - Agenda 2030

[\\$lbl legenda sviluppo sostenibile](#)