



## GENERAL AND CLINICAL MICROBIOLOGY

Enrollment year	2020/2021
Academic year	2020/2021
Regulations	DM270
Academic discipline	MED/07 ()
Department	DEPARTMENT OF PUBLIC HEALTH, NEUROSCIENCE, EXPERIMENTAL AND FORENSIC MEDICINE
Course	NURSING
Curriculum	PERCORSO COMUNE
Year of study	1°
Period	
ECTS	3
Lesson hours	45 lesson hours
Language	Italian
Activity type	WRITTEN TEST
Teacher	MIGLIAVACCA ROBERTA - 3 ECTS
Prerequisites	<p>Prerequisite courses: 503750 - Medical Clinical-Surgical.</p> <p>The student who enters the General Pathology and Microbiology Course (1st year, 2nd semester) must have acquired a good knowledge of the topics covered in the 1st semester, especially Anatomy.</p> <p>Furthermore, he must know the preparatory topics present in the courses of Biology, Biochemistry and Physiology.</p>
Learning outcomes	<p>The course aims to provide students with knowledge about the biology and genetics of microorganisms of medical interest, their role as disease agents and the principles of conventional microbiological diagnostics. In addition, students will be provided with notions regarding the composition of the microbial flora in normal conditions and in disease conditions and the methodological tools to understand the pathogenesis, therapy and epidemiology of infections.</p>

Furthermore, the student will learn the correct use of scientific and medical terminology.

#### Course contents

Epidemiological aspects of infectious diseases.  
The bacterial cell, fundamental components and accessory components (hints to the bacterial spore).  
Methods of sterilization and disinfection.  
The normal bacterial flora. Microbiota and pathogenesis.  
Host-parasite interaction and pathogenesis of infectious diseases.  
Mechanism of action of antibiotics and antibiotic resistance: methods for assessing in vitro antimicrobial activity (antibiogram and MIC).  
Methods of taking, from various anatomical districts, clinical samples for microbiological analysis and their correct storage.  
Direct and indirect diagnostic assessment criteria: microscopic examination, culture, diagnostics with manual / automated and molecular systems, serology.  
General characteristics of bacteria of medical interest, with particular reference to staphylococci and streptococci, mycobacteria, chlamydiae, enterobacteria, pseudomonas and other non-fermenting Gram-negative bacilli, neisserie, spirochetes, hemophiles.  
Structure, biological properties, virus replication.  
Pathogenesis and diagnostics of viral infections: general approach, virological and serological investigations.  
General characteristics of viruses of medical interest, with particular reference to retroviruses, viruses that cause hepatitis, herpesviruses, papillomaviruses, orthomixoviruses, paramixoviruses, adenoviruses and coronaviruses (notes).

Reproductive tract infections (sexually transmitted diseases), obstetric and postnatal infections, hepatitis, gastroenteritis, food poisoning, urinary tract infections, respiratory tract infections (upper and lower tract), central nervous system infections, infections of the bloodstream, nosocomial infections related to care practice: host / parasite relationship, main pathogens, diagnostic assessment criteria and surveillance principles.

#### Teaching methods

#### Reccomended or required readings

Textbook of Microbiology for Nursing Students. R.R. Rao (Author)  
Basic Medical Microbiology, Author : Patrick R. Murray  
Medical Microbiology. Patrick R. Murray, Ken S. Rosenthal, Michael A. Pfaller  
Elsevier - Health Sciences Division

The slides of the lecture will be available on the KIRO portal (pdf format).

#### Assessment methods

The Microbiology and Clinical Microbiology exam is written and consists of 16 multiple-choice quizzes and 2 open questions. The 2 open questions are replaced by quizzes in case of use of the kirotesting platform (online exam COVID-19 restrictions period)  
Students will have 90 minutes to complete the assignment.

The exam of General Pathology and Microbiology will be passed only if a positive vote has been reported in both modules (Microbiology and Clinical Microbiology; General Pathology and Clinical / Immunology).

**Further information**

**Sustainable development  
goals - Agenda 2030**

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