



# UNIVERSITÀ DEGLI STUDI DI PALERMO

<b>DEPARTMENT</b>	Promozione della Salute, Materno-Infantile, di Medicina Interna e Specialistica di Eccellenza "G. D'Alessandro"		
<b>ACADEMIC YEAR</b>	2019/2020		
<b>BACHELOR'S DEGREE (BSC)</b>	NURSING		
<b>INTEGRATED COURSE</b>	MICROBIOLOGY AND GENERAL PATHOLOGY - INTEGRATED COURSE		
<b>CODE</b>	05209		
<b>MODULES</b>	Yes		
<b>NUMBER OF MODULES</b>	2		
<b>SCIENTIFIC SECTOR(S)</b>	MED/07, MED/04		
<b>HEAD PROFESSOR(S)</b>	TODARO MATILDE	Professore Ordinario	Univ. di PALERMO
<b>OTHER PROFESSOR(S)</b>	CAPRA GIUSEPPINA	Professore Associato	Univ. di PALERMO
	TODARO MATILDE	Professore Ordinario	Univ. di PALERMO
<b>CREDITS</b>	6		
<b>PROPAEDEUTICAL SUBJECTS</b>			
<b>MUTUALIZATION</b>			
<b>YEAR</b>	1		
<b>TERM (SEMESTER)</b>	2° semester		
<b>ATTENDANCE</b>	Mandatory		
<b>EVALUATION</b>	Out of 30		
<b>TEACHER OFFICE HOURS</b>	<b>CAPRA GIUSEPPINA</b> Tuesday 12:00 13:00 PROSAMI Via del vespro 133 <b>TODARO MATILDE</b> Monday 14:00 15:00 sede caltanissetta CESPAP		

**DOCENTE:** Prof.ssa MATILDE TODARO

<b>PREREQUISITES</b>	Basic Knowledge of general pathology, biology, genetics.
<b>LEARNING OUTCOMES</b>	<p>Knowledge and understanding</p> <p>Acquisition of tools for the understanding of the pathogenesis and pathophysiology of the disease. Ability of using technical language of these disciplines. Knowledge of features of microorganisms and main pathogens. The students will achieve the following objectives:</p> <p>Ability to apply knowledge and understanding</p> <p>Ability to recognize and apply the cognitive tools and the methodological approach of General Pathology for the scientific and rational practise of the profession. To demonstrate the ability to apply their knowledge and understanding to the main themes of microbiology.</p> <p>Making judgments</p> <p>To be able to evaluate independently the results of studies developed with the aim to clarify pathogenesis and pathophysiology of diseases. To acquire enough microbiology knowledge to critically analyze data</p> <p>Communication skills</p> <p>Ability to explain easily and exhaustively the knowledge. Ability to communicate with colleagues, healthcare professionals, patients and their relatives.</p> <p>Ability of learning</p> <p>Ability to update scientific publications about these disciplines .Attendance to meeting, congress and seminars</p>
<b>ASSESSMENT METHODS</b>	<p>At the end of the course the student can choose to take the written test or an oral exam</p> <p>Written test. the test consists of n ° 30 multiple choice questions on the topics of the program and n ° 1 open question which will be composed of a brief answer from the student. the evaluation of the test will assign 1 point for each correct answer and 0 points for incorrect answers. the open answer will allow the acquisition of the Lode. The evaluation of the exam will be optimized in thirtieths. The written exam can be followed by a possible oral integration.</p> <p>Oral exam. The candidate will have to answer at least four questions posed orally, at least two for each of the two modules, covering the different parts of the program, with reference to the recommended texts. Final assessment aims to evaluate whether the student has knowledge and understanding of the topics, has acquired the skills to interpret the notions and judge independently. The evaluation is expressed using a 30-point scale. See at <a href="http://www.unipa.it/scuole/dimedicinaechirurgia">http://www.unipa.it/scuole/dimedicinaechirurgia</a></p>
<b>TEACHING METHODS</b>	Lectures

## MODULE MICROBIOLOGY

*Prof.ssa GIUSEPPINA CAPRA*

### SUGGESTED BIBLIOGRAPHY

Sherris Microbiologia Medica EMSI  
La Placa Principi di Microbiologia Medica EdiSes  
De Grazia S, Giammanco G, Ferraro D – Microbiologia e microbiologia clinica per infermieri. Casa Editrice Pearson

<b>AMBIT</b>	10304-Scienze biomediche
<b>INDIVIDUAL STUDY (Hrs)</b>	45
<b>COURSE ACTIVITY (Hrs)</b>	30

### EDUCATIONAL OBJECTIVES OF THE MODULE

- To know structural-functional, replicative and pathogenic characteristics of microorganism.
- To know the interactions between microorganism and host.
- To know the mechanisms of control of microbial infections.
- To know the basic laboratory methodology for the diagnosis of infections
- Be able to correlate the microbiological knowledge with nursing.

## SYLLABUS

Hrs	Frontal teaching
2	Structure and replication of bacteria
1	Metabolism and methods of cultivation of bacteria
2	Structure and replication of fungi; pathogenicity factors of bacteria and fungi.
2	Mechanisms of action of bacteria toxins and route of transmission of microorganisms
2	Structure and replication of viruses
3	Virus-cell and virus-host interactions
2	Antimicrobial agents
2	Mechanisms of disinfection, sterilization and vaccines.
2	Microbiological sampling
2	Principle of microbiological diagnosis
10	Principals pathogens causing respiratory, gastroenteric and urogenital diseases (Streptococcus spp; Staphylococcus spp; Neisseria spp; Micobacterium spp; Clostridium spp; Enterobacterium spp; Treponema spp. Herpesvirus; Papillomavirus; hepatitis viruses; Retroviruses; Toxoplasma gondii; Candida)
30	Structure and replication of bacteria Metabolism and methods of cultivation of bacteria Structure and replication of fungi; pathogenicity factors of bacteria and fungi. Mechanisms of action of bacteria toxins and route of transmission of microorganisms Structure and replication of viruses Virus-cell and virus-host interactions Antimicrobial agents Mechanisms of disinfection, sterilization and vaccines. Microbiological sampling Principe of microbiological diagnosis Principals pathogens causing respiratory, gastroenteric and urogenital diseases (Streptococcus spp; Staphylococcus spp; Neisseria spp; Micobacterium spp; Clostridium spp; Enterobacterium spp; Treponema spp. Herpesvirus; Papillomavirus; hepatitis viruses; Retroviruses; Toxoplasma gondii; Candida)

**MODULE**  
**GENERAL PATHOLOGY AND PATHOPHYSIOLOGY**

*Prof.ssa MATILDE TODARO*

**SUGGESTED BIBLIOGRAPHY**

Patologia Generale e Fisiopatologia Generale , G.M. Pontieri VI edizione, Piccin  
Principi di Patologia Generale ed oncologia molecolare, E. Mattiolo, M. Piazza, F. Virzi, Medical Books

<b>AMBIT</b>	10304-Scienze biomediche
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<b>INDIVIDUAL STUDY (Hrs)</b>	45
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<b>COURSE ACTIVITY (Hrs)</b>	30
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**EDUCATIONAL OBJECTIVES OF THE MODULE**

To acquire the necessary skills to understand homeostatic mechanisms, the etiology and pathophysiological mechanisms of diseases. Basic information on the main diagnostic techniques

**SYLLABUS**

Hrs	Frontal teaching
2	To have a clear conception of homeostasis, disease, etiology and pathogenesis
2	Leucocytes: generation and morphology. Function in health and disease of lymphocytes, monocytes, neutrophils, eosinophils, basophils. Normal and pathological leucocytes cell count
6	Acute inflammation and vascular modifications. Cellular and plasmatic mediators: preformed and newly synthesized mediators. Cells involved in inflammation, Adhesion molecules, cellular migration, phagocytosis. Exudates. Tissue repair, wound healing. Chronic inflammation: non-specific and granulomatous
2	Electrophoresis of plasma proteins. Acute phase proteins in the monitoring of inflammatory response: CRP and ESV
6	Innate and adaptive immune response. cells and tissues of the immune system. Cytokines, Antigens, Antibodies, Complement system, , HLA and blood groups, Hypersensitivity reactions. Autoimmunity and Immunodeficiencies (basic knowledge)
6	The adaptive responses: hypertrophy, hyperplasia, metaplasia, atrophy. Cell injury and death: necrosis and apoptosis. Characteristics of benign and malignant neoplasms and nomenclature. Tumor progression and metastasis. Angiogenesis. Carcinogenic agents. Oncogenes and cancer suppressor genes. Elements of epidemiology.
2	Pathophysiology of body temperature: fever and hyperthermia. Pyrogens. Types of fever and pathophysiological significance
4	Anemia and laboratory diagnosis of anemias. Iron deficiency anemia , anemia of chronic disease, megaloblastic anemias, thalassemia, hemolytic anemias due to both intra- and extracellular defects. Polycythemia