



# UNIVERSITÀ DEGLI STUDI DI PALERMO

<b>DEPARTMENT</b>	Biomedicina, Neuroscienze e Diagnostica avanzata		
<b>ACADEMIC YEAR</b>	2023/2024		
<b>BACHELOR'S DEGREE (BSC)</b>	NEUROPHYSIOPATHOLOGY TECHNIQUES		
<b>INTEGRATED COURSE</b>	PRINCIPLES OF PATHOLOGY AND BASES OF THERAPY - INTEGRATED COURSE		
<b>CODE</b>	22326		
<b>MODULES</b>	Yes		
<b>NUMBER OF MODULES</b>	2		
<b>SCIENTIFIC SECTOR(S)</b>	MED/04, BIO/14		
<b>HEAD PROFESSOR(S)</b>	ACCARDI GIULIA	Ricercatore a tempo determinato	Univ. di PALERMO
<b>OTHER PROFESSOR(S)</b>	ACCARDI GIULIA	Ricercatore a tempo determinato	Univ. di PALERMO
<b>CREDITS</b>	4		
<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>ACCARDI GIULIA</b> Tuesday 15:00 16:00 Sezione di patologia generale, Corso Tukory 211, 90134, Palermo Friday 12:00 14:00 Sezione di patologia generale, Corso Tukory 211, 90134, Palermo		

**DOCENTE:** Prof.ssa GIULIA ACCARDI

<b>PREREQUISITES</b>	Biology, biochemistry, genetics and physiology.
<b>LEARNING OUTCOMES</b>	<p>Knowledge and understanding: acquisition of tools for understanding the etiopathogenetic and pathological mechanisms of the disease. Acquisition of skills and knowledge in the field of Pharmacology and main mechanisms of action of the drugs and their therapeutic use in the most relevant diseases of the central and peripheral nervous system. Ability to use the specific language of this discipline. Ability to apply knowledge and understanding. Ability to recognize and apply the cognitive tools and the methodological rigor of the general pathology for the rational exercise of any activity connected directly and indirectly to the protection of health. Autonomy of judgment: being able to independently evaluate the results of studies aimed at clarifying the etiopathogenetic and pathological mechanisms of diseases. Communication skills: being able to transfer the knowledge learned to subjects of the same educational level and to patients, with the use of simple and clear language. Ability to explain, in a simple, immediate and exhaustive way the acquired knowledge relating to pathological processes and therapeutic uses related. Learning skills: ability to update by consulting the scientific publications of the discipline in question. Ability to participate, using knowledge acquired during the course, to continuous updating initiatives for health professionals.</p>
<b>ASSESSMENT METHODS</b>	<p>Oral exam.</p> <p>The evaluation is registered as a vote out of thirty, as reported in the following scheme:</p> <p>- grade: 30 - 30 cum laude - Assessment: excellent (ECTS grade A-A + excellent).</p> <p>Outcome: excellent knowledge of the teaching content. The student shown a high analytical-synthetic ability and is able to apply knowledge to solve highly complex problems.</p> <p>-Score: 27 - 29 - Evaluation: excellent (ECS grade B very good).</p> <p>Outcome: excellent knowledge of the teaching content and excellent ownership of language. The student has provided the analytical-synthetic ability and it can apply the knowledge to solve the problem of medium complexity and even high.</p> <p>- Grade: 24 - 26 - Grade: good (ECTS grade C Good).</p> <p>Outcome: good knowledge of the content of the information and good ownership of the same language. The student can apply knowledge to solve problems of medium complexity.</p> <p>Grade: 21 - 23 - Assessment: fair (ECTS grade D satisfactory).</p> <p>Outcome: good knowledge of the main topic of the teaching content. Acceptable ability to use the language specific to the discipline and to apply acquired knowledge.</p> <p>- Grade: 18 - 20 - Grade: sufficient (ECS grade E sufficient).</p> <p>Success: minimal knowledge of the information content, generally limited to the main topics. Modest ability to use the specific language of the discipline and to apply the acquired knowledge.</p> <p>- Grade: 1 - 17 - Grade: insufficient (ECTS grade F Fail).</p> <p>Outcome: does not have accessible knowledge of the main content of the teaching. Very little or no ability to use language specific to the discipline and to apply it autonomously to get to know it.</p> <p>Exam failed.</p>
<b>TEACHING METHODS</b>	Standard lectures.

## MODULE PHARMACOLOGY I

### SUGGESTED BIBLIOGRAPHY

Farmacologia generale e molecolare. Clementi F, Fumagalli G. 5° Edizione - edra - ISBN: 9788821444364  
 Trattato di Farmacologia. L. Annunziato – G. Di Renzo. Idelson-Gnocchi (III Edizione) - ISBN: 9788879477291  
 The Pharmacological Basis of THERAPEUTICS. Goodman & Gilman's. ISBN: 9781259584732.

<b>AMBIT</b>	10349-Scienze medico-chirurgiche
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<b>INDIVIDUAL STUDY (Hrs)</b>	30
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<b>COURSE ACTIVITY (Hrs)</b>	20
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### EDUCATIONAL OBJECTIVES OF THE MODULE

Acquisition of knowledge in the field of Pharmacology and skills in general pharmacology and the use of drugs. In particular, students will acquire knowledge of the different classes of drugs, toxic and abuse substances, their main mechanisms of action, therapeutic uses, side effects and toxicity; acquisition of knowledge of the molecular and biochemical mechanisms underlying the effect of the drug; acquisition of adequate systematic knowledge of the most relevant diseases of the central, peripheral and muscular nervous system.

## SYLLABUS

Hrs	Frontal teaching
2	Bases of pharmacokinetics: routes of administration and absorption, distribution, metabolism, elimination of drugs (ADME); interactions between drugs.
2	Bases of pharmacodynamics: study of drug-receptor interaction; concepts of agonist, partial agonist, inverse agonist, antagonist. Examples of molecular drug targets.
4	Pharmacology of the Autonomic Nervous System: Neurotransmitters and ANS receptors. Classification of drugs acting on ANS: cholinergic agonists and antagonists with direct and indirect action. Neuromuscular plaque blockers. Acetylcholinesterase enzyme inhibitors.
4	The Central Nervous System. Synapses and secretion of neurotransmitters. Catecholaminergic, cholinergic, serotonergic, gabaergic transmission. Neurotransmission mediated by excitatory amino acids.
4	Pharmacotherapy aspects: antidepressant drugs; anxiolytic and sedative-hypnotic drugs; antiepileptic drugs; antipsychotic drugs; drugs for Parkinson's disease.
4	Opioid system. Opioids, analgesics and pain therapy. The Cannabinoids.

## MODULE GENERAL PATHOLOGY

*Prof.ssa GIULIA ACCARDI*

### SUGGESTED BIBLIOGRAPHY

G.M. Pontieri - Elementi di patologia generale Ed 4, 2018 Piccin Nuova Libreria.  
Articoli da riviste scientifiche.

<b>AMBIT</b>	10338-Scienze biomediche
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<b>INDIVIDUAL STUDY (Hrs)</b>	30
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<b>COURSE ACTIVITY (Hrs)</b>	20
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### EDUCATIONAL OBJECTIVES OF THE MODULE

The "General Pathology" module of the integrated course "Principles of Pathology and Basics of Therapy" aims to understand the molecular processes underlying the disease. More specifically, the knowledge useful for understanding how and why the disturbance of the state of health occurs and the disease develops, both from a molecular and cellular point of view, will be transmitted. After having studied the mechanisms and the actors involved in the onset of the disease, some models of pathologies will be used to provide concrete examples on the pathophysiological processes underlying the development of the disease. In addition, the concept of disease prevention will be introduced. Another fundamental objective will be to convey to students the importance of acquiring concrete and certain scientific evidence, obtained from a careful and in-depth study of the literature. The student will be able to understand the role and mechanisms through which the perturbations of the integrated functions of the organism determine the genesis and maintenance of pathological phenomena, modifying the biochemical, molecular and structural balance that physiologically coordinates the functions of the various organs and systems. This represents the fundamental prerequisite for the rational exercise of any activity connected directly or indirectly to the protection of individual health and the population.

## SYLLABUS

Hrs	Frontal teaching
2	Presentation of the course. The concepts of disease and health. Etiology and pathogenesis. Homeostasis and homeodynamics.
3	Endogenous and exogenous causes of disease: genetic, physical, chemical and biological.
4	The body's defenses: mechanical-chemical barriers and the immune system. The cells of innate immunity and inflammation. Cytokines.
3	Inflammation: from damage to its elimination.
2	Damage resolution: repair and healing mechanisms.
3	Pathophysiology of atherosclerosis and Alzheimer's disease.
3	The aging process and its related pathologies.