UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Medicina di Precisione in area Medica, Chirurgica e Critica
ACADEMIC YEAR	2022/2023
MASTER'S DEGREE (MSC)	DENTISTRY
SUBJECT	PHARMACOLOGY
TYPE OF EDUCATIONAL ACTIVITY	B
AMBIT	50449-Discipline mediche di rilevanza odontoiatrica
CODE	03137
SCIENTIFIC SECTOR(S)	BIO/14
HEAD PROFESSOR(S)	PLESCIA FULVIO Professore Associato Univ. di PALERMO
OTHER PROFESSOR(S)	
CREDITS	6
INDIVIDUAL STUDY (Hrs)	90
COURSE ACTIVITY (Hrs)	60
PROPAEDEUTICAL SUBJECTS	05209 - MICROBIOLOGY AND GENERAL PATHOLOGY - INTEGRATED COURSE 17142 - BIOCHEMISTRY AND CLINICAL MOLECULAR BIOLOGY - INTEGRATED COURSE 14213 - HUMAN PHYSIOLOGY AND PHYSIOLOGY OF STOMATOGNATIC APPARATUS - INTEGRATED COURSE
MUTUALIZATION	
YEAR	3
TERM (SEMESTER)	1° semester
ATTENDANCE	Mandatory
EVALUATION	Out of 30
TEACHER OFFICE HOURS	**PLESCIA FULVIO** Monday 9:30 11:30 Policlinico Universitario, Padiglione 11d - Farmacologia

DOCENTE: Prof. FULVIO PLESCIA

PREREQUISITES	Students will have acquired the basics of Human Physiology, Microbiology and General Pathology
LEARNING OUTCOMES	Knowledge and understanding - Acquisition of the most appropriate means to reach a competent comprehension of the issues and knowledge of the effects of pharmacological properties of the molecules employed in therapy -Acquisition of a proper language, suitable to the description of molecular cellular and systemic activity of the drugs. Ability to retain and apply a methodology to consolidate a critical knowledge of the main categories of pharmacological agents and their direct action on specific organs and systems - Acquisition of a dynamic and "analytical" assessment concerning the fields of pharmacological applications, according to the Guidelines and the scientific Literature. Developing the ability to discuss on the rationale of specific drug therapies with Seniors and also share it with non-expert audience
ASSESSMENT METHODS	The examination consists of at least three oral open questions, including one question pertaining the general pharmacology topics and the others focused on specific drug therapeutics. The student have to demonstrate knowledge and understanding of the discipline n as well as the ability to apply the knowledge gained in the clinical context. An appropriate use of the specific pharmacological terms is also requested.The evaluation will be as following: - Excellent (30-30 with laude): Excellent knowledge of teaching contents; students should show high analytical and synthetic capabilities and being able to to apply the acquired knowledge in dental practice. - Very Good (27-29): Very good knowledge of the teaching contents and excellent language control; students should show analytical and synthetic skills and be able to apply their knowledge in clinical practice. -Good (24-26): Good knowledge of teaching contents and good language control; the student is able to apply the knowledge to the practical management of the dental patient. -Satisfactory (21-23): Average knowledge of the teaching contents, in some cases limited to the main topic; acceptable ability to use the specific discipline language and independently apply the acquired knowledge. - Sufficient (18-20): Minimum teaching content knowledge, often limited to the main topic; modest ability to use the subject specific language and independently apply the acquired knowledge. - Fail: Lack of an acceptable knowledge of the main teaching content knowledge; very little or no ability to use the specific subject language and apply independently the acquired knowledge
EDUCATIONAL OBJECTIVES	Knowing the basics of pharmacodynamics, different classes of drugs, molecular and cellular mechanisms of their action, therapeutic uses, response variability in relation to genetic and pathophysiological factors, interactions Pharmacological properties and criteria for defining therapeutic patterns
TEACHING METHODS	Lectures
SUGGESTED BIBLIOGRAPHY	Farmacologia in odontoiatria di Matilde Amico Roxas - 2016 - EDRA - ISBN: 8802072930 Farmacologia. Compendio e quesiti a scelta multipla di Bertram G. Katzung, Marieke Kruidering-Hall, Anthony J. Trevor - Ed. 5° - Piccin - ISBN: 8829931403 Farmacologia generale e clinica di Bertram G. Katzung - Ed.11 - Piccin - ISBN: 8829931292

SYLLABUS

Hrs	Frontal teaching
3	INTRODUCTION AND PRESENTATION TO THE COURSE - General principles of pharmacology. Definitions of drug, medicament, and poison. Concepts of drug and active ingredient. Nature of drugs. Pharmaceutical forms. Medical prescription. Prescription of drugs in dentistry. The development of new drugs.
4	Pharmacokinetics. Phases of pharmacokinetics (ADME). Plasma- or serum-concentration vs time curve. Drug absorption. Transfer of drugs across membranes: influence of pH and pKa. Routes of drug administration: oral, rectal, parenteral, transdermal, pulmonary, topical.
4	Bioavailability. First-pass metabolism. P-glycoprotein. A.U.C. Determination of drug bioavailability. Drug distribution. Blood flow. Binding to plasma proteins. Blood-tissue barriers. Volume of distribution. Loading dose. Pathways of drug metabolism. Phase I, II and III of drug metabolism. CYP450. Prodrugs and drug metabolites. Enzyme induction and inhibition.
2	Drug elimination. Routes of drug excretion: renal, fecal, pulmonary and others. Clearance, half-life. Steady state and drug dosing. Drug research and development. Clinical trials of phase I, II, III, IV. Meta-analysis. Pharmacoepidemiology.
4	PHARMACODYNICS - Pharmacodynamic concepts. Mechanisms of drug action. Signaling pathways and drug action

SYLLABUS

Hrs	Frontal teaching
6	THE AUTONOMIC AND SOMATIC MOTOR NERVOUS SYSTEMS. MUSCARINIC RECEPTOR AGONISTS AND ANTAGONISTS - Acethylcoline and its muscarinic receptor target. Muscarinic receptor agonists and antagonists. ANTICHOLINESTERASE AGENTS - Acetylcholinesterase inhibitors. Therapeutic uses of AChE inhibitors. NICOTINE AND AGENTS ACTING AT THE NEUROMUSCOLAR JUNCTION AND AUTONOMIC GANGLIA. ADRENERGIC AGONISTS AND ANTAGONISTS - Classification of sympathomimetic drugs. Endogenous catecholamines. Beta-adrenergic receptor agonists. Alfa-adrenergic receptor agonists. Alfa-adrenergic receptor antagonists. Beta-adrenergic receptor antagonists
3	GENERAL ANESTHETICS - Actions and Mechanisms of general anesthetics. Parenteral and inhalational anesthetics. Anestetic adjuncts. LOCAL ANESTHETICS - Actions, Mechanisms and chemistery and structure activity relationship. Local anesthetics and related agents. Clinical uses of local anesthetics
3	DRUG THERAPY OF DEPRESSION AND ANXIETY DISORDERS
4	ANTI-INFLAMMATORY, ANTIPYRETIC AND ANALGESIC AGENTS - ADRENOCORTICOSTEROIDS & ADRENOCORTICAL ANTAGONISTS - PHARMACOLOGY OF ANTIHISTAMINE
2	AGENTS THAT AFFECT BONE MINERAL HOMEOSTASIS
2	DRUGS USED IN DISORDERS OF COAGULATION
8	CHEMOTHERAPEUTICS OF USE IN DENTISTRY
2	ANTISEPTICS AND DISINFECTANTS
4	RISK DISEASES IN DENTISTRY AND RELATED DRUG THERAPIES
2	DRUGS FOR EMERGENCIES IN DENTISTRY.
3	ANTIVIRAL AGENTS
4	DRUGS USED IN DISEASES OF THE CARDIOVASCULAR SYSTEM.