



UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Scienze e Tecnologie Biologiche, Chimiche e Farmaceutiche		
ACADEMIC YEAR	2017/2018		
MASTER'S DEGREE (MSC)	PHARMACY		
SUBJECT	GENERAL AND CLINICAL PATHOLOGY AND MEDICAL TERMINOLOGY		
TYPE OF EDUCATIONAL ACTIVITY	A		
AMBIT	50321-Discipline Mediche		
CODE	19170		
SCIENTIFIC SECTOR(S)	MED/04		
HEAD PROFESSOR(S)	VASTO SONYA	Professore Associato	Univ. di PALERMO
OTHER PROFESSOR(S)			
CREDITS	8		
INDIVIDUAL STUDY (Hrs)	140		
COURSE ACTIVITY (Hrs)	60		
PROPAEDEUTICAL SUBJECTS			
MUTUALIZATION			
YEAR	3		
TERM (SEMESTER)	1° semester		
ATTENDANCE	Not mandatory		
EVALUATION	Out of 30		
TEACHER OFFICE HOURS	VASTO SONYA Monday 10:00 11:30 Dipartimento Stebicef, parco d'Orleans, Edificio 16, piano primo Wednesday 10:00 11:30 Dipartimento Stebicef, parco d'Orleans, Edificio 16, piano primo		

DOCENTE: Prof.ssa SONYA VASTO

PREREQUISITES	Knowledge of Biochemical subjects as well as Physiology matters
LEARNING OUTCOMES	1)Acquisition of advanced knowledge on the functioning of organs and apparatus, as a target of drug action. Ability to understand the specific language of these disciplines. 2)Ability to use the knowledge acquired for the purpose of studying the mechanisms of action of drugs in different organs and apparatus. Ability to recognize and apply cognitive and methodological assesment of General Pathology for the rational exercise of any activity directly and indirectly related to the protection of health. 3)Judgment autonomy Being able to evaluate the implications and results of studies to clarify the functioning of organs and apparatus. To be able to independently evaluate the results of studies aimed at clarifying the etiopathogenetic mechanisms of diseases. 4)Communicative Skills Ability to use the language of these disciplines, necessary to interact with other health professions, but also to illustrate the concepts of physiology and general pathology to an unknowing public. 5)Learning Skills Upgrade skills by consulting the industry's own scientific publications, in order to avoid obsolescence of acquired skills. Ability to follow, using the knowledge gained during the curriculum course, both second-level master's, and seminars and courses in depth in the field of Physiology and General Pathology
ASSESSMENT METHODS	The final examination will be given after an oral examination, in which the student has to answer at least three questions of the program, with reference to the recommended texts. The oral examination aims to demonstrate sufficient knowledge of the programme of the course; it will also evaluate his elaboration skills and the autonomy of judgment about the disciplinary contents. During the examination, students will have to express the topics in a clear and articulated way, using appropriate scientific terms. The examination score is expressed using a 30-point scale (from min 18/30 to max 30/30 cum laude). The student gains a minimum range score (18-20/30) after showing general knowledge and comprehension of the treated topics, and a proper scientific vocabulary, even if not adequately articulated. The examination score will be increased (range score from 20/30 to 28/30) the more the candidate shows a deep knowledge of the topics. The examination score is the result either of the information he acquired during the course either from a personal study of the recommended texts together with the personal elaboration of the newly acquired knowledge. Positive scores will also be given to a clear and articulated presentation, along with the correct use of scientific terms. The score of 30/30 and 30/30 cum laude will be gained by the candidate who shows optimal knowledge of the topics, which he expresses in a clear and articulated way with optimal language and analytical skills, showing his mental autonomy and his elaboration ability of the newly acquired knowledge.
EDUCATIONAL OBJECTIVES	Acquiring the skills needed to understand the etiopathogenetic mechanisms of diseases and alterations in structures, functions and control mechanisms at various levels of integration
TEACHING METHODS	face to face lectures
SUGGESTED BIBLIOGRAPHY	C. Caruso, F. Licastro. Compendio di Patologia generale. Casa Editrice Ambrosiana. 2006. Materiale didattico (dia e pdf distribuiti a lezione)

SYLLABUS

Hrs	Frontal teaching
4	Etiology, pathogenesis and pathophysiology : the anatomical and functional bases of diseases .Homeostasis , functional reserve and failure . cellular responses to harmful stimuli . Cellular damage ; causes and mechanisms ; subcellular response to injury ; intracellular accumulation and pathological calcification
6	The natural and specific immune response : cells and innate immune tissues . The importance of the barriers . The receptors of the innate immune system . General information on the inflammatory response : the inflammatory cells . Leukocytes : genesis , morphology and pathophysiology of lymphocytes , monocytes , neutrophils , eosinophils and basophils . The preparation of blood smears on slides . The differential count and its variations : normal values of individual populations , pathogenetic mechanisms of changes and pathophysiological significance . Structure and classes of antibodies . LPS and other types of noxae flogogene : the triggering mechanisms of inflammation . The Angiophlogosis : vascular changes . The cellular mediators and fluid phase The inflammation cells ; the adhesion molecules and cell migration ; phagocytosis . Exudates and transudate ; classification of edema . The healing process : the tissue repair and wound healing . The istoflogosi specific and granulomatous . Etiology of granulomas .
4	Complement : activation through the classical pathway , activation via the alternative pathway , activation via the lectin away , Le anaphylatoxins ; The control mechanisms of the complement system ; Deficiency of complement molecules . The blood groups : The AB0 system , the Rh system; Maternal-fetal incompatibility ; The HLA system. HLA and diseases . The Lymphocytes : The ontogeny of lymphocytes , lymphocyte classes , T lymphocytes , natural killer lymphocytes , B lymphocytes ; Phases of the immune response .

SYLLABUS

Hrs	Frontal teaching
6	Serum electrophoresis and pathophysiology of serum proteins . The albumin and globulins . The acute phase proteins . Role in the monitoring of inflammatory processes ; ESR . blood diseases and coagulation. Hypertension, CVD
4	Fever and other central effects of acute phase responses : hypothalamic effects of cytokines . Pathophysiology of body temperature and hyperthermia. Pyrogens and cryogenic . Types of fever and meaning
4	Anatomy and functions of primary and secondary lymphoid organs . General characteristics of the cytokines . Classification of cytokines . Cytokines that regulate innate immunity and inflammatory immune. Cytokines that regulate specific immunity . Hematopoietic cytokines . Cytokines that regulate cell migration (chemokines) . Chemotaxis and adhesion molecules General characteristics of the antigens ; Recognition of antigens ; Recognition of antigens by lymphocytes . Structure and functions of antibodies . Recognition of antigens by T lymphocytes
4	The type I hypersensitivity : allergens , IgE antibodies , mast cells and basophils , the mediators of hypersensitivity reaction type I ; predisposition to allergies . Hypersensitivity type II . The Type III hypersensitivity . The type IV hypersensitivity . immunological tolerance mechanisms . Autoimmunity : etiology and pathogenesis ; autoimmune diseases, organ and non- organ specific .Rheumatoid arthritis
4	The cell cycle : cell cycle control . cellular responses to harmful stimuli . Atrophy, hyperplasia , hypertrophy and metaplasia . General characteristics of cancer cells . The concept of cancer . benign and malignant tumors . Classification of tumors . Staging of tumors . Epidemiology of human cancers . Metastasis . metastatic diffusion mode : Dissemination through the blood , lymph , transcelomatica , subarachnoid , canalicular . tumor markers ;. protein markers : CEA (carcinoembryonic antigen) , CA 19-9 , Alpha - fetoprotein (AFP) , chorionic gonadotropin , CA 125 263, prostate specific antigen (PSA) , carcinogens and carcinogenesis . chemical carcinogenesis . physical carcinogenesis . biological carcinogenesis : DNA tumor viruses , oncogenes RNA Virus
4	Oncogenes and tumor suppressor genes ; Oncogenes : History , Functions of proto - oncogenes , growth factors and receptors , cytoplasmic and nuclear components along the way of the signaling cell , genes involved in the control of apoptosis and cell cycle , mutations that convert proto - oncogenes to oncogenes , Structure of oncogenes . Tumor suppressor genes : The Rb gene, p53 gene, other tumor suppressor genes , Importance of tumor suppressor genes in human disease
4	Endocrine disorders: goitre , hyperthyroidism , hypothyroidism (Hashimoto , B Graves) thyroid cancer , Diabetes mellitus : Adrenal : Cushing's disease
4	Genetic disorders: alpha 1-antitrypsin deficiency(BPCO) , familial Mediterranean fever, Hemochromatosis
4	Anemias disease and classification and Pathophysiologic Consequences, Nutritional Anemias and Anemia of Chronic Disease, Hemolytic Anemias, Hemoglobinopathies and Thalassemias
4	Gastric disease ulcers , celiac disease
4	non- inflammatory edema ,Kidney diseases and erectile dysfunction