UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Scienze e Tecnologie Biologiche, Chimiche e Farmaceutiche		
ACADEMIC YEAR	2017/2018		
BACHELOR'S DEGREE (BSC)	BIOTECHNOLOGIES		
INTEGRATED COURSE	ANATOMY AND PATHOLOGY - INTEGRATED COURSE		
CODE	15242		
MODULES	Yes		
NUMBER OF MODULES	2		
SCIENTIFIC SECTOR(S)	MED/04, BIO/16		
HEAD PROFESSOR(S)	MISIANO GABRIELLA	Ricercatore	Univ. di PALERMO
OTHER PROFESSOR(S)	MISIANO GABRIELLA DI FELICE VALENTINA	Ricercatore Professore Ordinario	Univ. di PALERMO Univ. di PALERMO
CREDITS	9		
PROPAEDEUTICAL SUBJECTS			
MUTUALIZATION			
YEAR	3		
TERM (SEMESTER)	2° semester		
ATTENDANCE	Not mandatory		
EVALUATION	Out of 30		
TEACHER OFFICE HOURS	**DI FELICE VALENTINA** Thursday 12:00 13:00 Sulla Chat di Teams **MISIANO GABRIELLA** Monday 14:00 16:00 Dipartimento di Biomedicina, Neuroscienze e Diagnostica avanzata Bi.N.D - Sezione di Patologia Generale - Corso Tukory, 211 - 90134 Palermo Tuesday 14:00 16:00 Dipartimento di Biomedicina, Neuroscienze e Diagnostica avanzata Bi.N.D - Sezione di Patologia Generale - Corso Tukory, 211 - 90134 Palermo Wednesday 14:00 16:00 Dipartimento di Biomedicina, Neuroscienze e Diagnostica avanzata Bi.N.D - Sezione di Patologia Generale - Corso Tukory, 211 - 90134 Palermo		

DOCENTE: Prof.ssa GABRIELLA MISIANO

PREREQUISITES	The student will have a basic knowledge of cell biology, biochemistry, genetics, to fully understand the structure and organization of the human body and the pathogenic mechanisms leading to diseases and tumors
LEARNING OUTCOMES	Knowledge and understanding: Acquiring a minimum comprehension of the anatomy of the human body, and of the location and structure of individual organs. Understanding the relationship between different systems and the alterations both anatomical and functional which may lead to diseases. Applying Knowledge and understanding: the student should be able to recognize the microscopic structure of an organ in order to employ this ability In biomedical applications. The newly acquired knowledge is very important to understand the human physiology and discern the aetiological events that may alter the natural homeostasis Making judgement: Ability to synthesize and analyse . This ability will lead to the formulation of a critical thinking on the studied topics and to estimate the changes induced by environmental factors on the human body. Acquiring a critical approach aimed at the application in biotechnology methodologies. Communication: Acquiring the ability to correctly describe the human body and the related disease conditions by means of an appropriate terminology. Ability to interact with other professionals involved in diagnostic and therapeutic processes in an efficient work group Lifelong learning skills: Ability to correctly integrate the acquired knowledges of citology, histology, anatomy, physiology and human pathology aimed at fully understand the overall functioning of the human body and of the complex interactions between different anatomical regions. Understanding applications and limitations of the biotechnology techniques in the biomedical field.
ASSESSMENT METHODS	The student will have to answer at least 2/3 questions posed orally by the examiner and these will be related to all the topics dealt with during the course, with reference to recommended textbooks. The examination evaluation will be scored in thirties along the following scheme: 30-30 cum laude: Excellent knowledge of the topics and correct use of language, analytical skills, ability to apply the knowledge to solve the proposed problems. 26-29: Good command of the subjects and correct use of language, ability to apply the knowledge to solve the proposed problems. 24-25: Basic knowledge of the main topics, proper language skills, limited ability to apply the knowledge to solve the proposed problems. 21-23: Lack of competence in the main topics dealt with during the course although getting the basic knowledge, satisfacory language skills, but limited ability to apply the knowledge to solve the proposed problems. 18-20: minimal basic knowledge of the main topics dealt with during the course and of the technical language, very low ability to apply the knowledge to solve the proposed problems. Failure: lack of an acceptable knowledge of the topics dealt with during the course.
TEACHING METHODS	Lessons and classroom exercises

MODULE
PATHOLOGY AND GENERAL ONCOLOGY

Prof.ssa GABRIELLA MISIANO

SUGGESTED BIBLIOGRAPHY

G.M. Pontieri - Elementi di patologia generale per i corsi di laurea in professioni sanitarie - III Edizione, Piccin
Robbins – Fondamenti di Patologia e Fisiopatologia
Autori:V. Kumar, A.K. Abbas, J.C. Aster
MASSON 2013 9° edizione
Sono a disposizione degli studenti le presentazioni (.pdf) utilizzate durante le lezioni ed, a richiesta, articoli scientifici di approfondimento su specifici argomenti

AMBIT	10643-Attività formative affini o integrative
INDIVIDUAL STUDY (Hrs)	47
COURSE ACTIVITY (Hrs)	28

EDUCATIONAL OBJECTIVES OF THE MODULE

Understanding the causes and pathogenic mechanisms that alter the natural hompeostasis through the cellular and molecular events involved. Use of advanced diagnostic methods in the field of human pathology

SYLLABUS

Hrs	Frontal teaching
2	Disease as an alteration of natural homeostasis, molecular mechanism of damage.
4	The inflammatory response. Acute inflammation:vascular changes, edema. Cytokines as molecular mediator of inflammatory responses and their receptors. Systemic effects of cytokines: fever, pathophysiology and different types of fever, the acute phase response. Chronic inflammation: cellular infiltration, different types of infiltration.
4	Hypersensitivity reactions: classification, activation and effector mechanisms
4	Neoplasia: nomenclature, molecular aetiology of tumors, molecular mechanisms of neoplastic transformation, oncogenes and tumor suppressor genes. Molecular markers in oncology. Cancer and inflammation. Tumor angiogenesis.
2	Anti tumor immunity: cells, mediator, tumor specific and tumor associated antigens. Use of monoclonal antibodies in human anti tumor therapy

Hrs	Practice
4	Applications in laboratory diagnostics of antigen-antibody reaction.
4	Applications of molecular biology in clinical diagnostics
4	Real time PCR: genotyping with fluorescence-labeled probes

MODULE
HUMAN ANATOMY

Prof.ssa VALENTINA DI FELICE

SUGGESTED BIBLIOGRAPHY	
Martini – Edises – Anatomia Umana; Lo sviluppo prenatale dell'uomo 9 edizione, di K. Moore; T.V.N. Persaud; M. G. Torchia	
AMBIT	50081-Discipline biotecnologiche con finalità specifiche: biologiche e industriali
INDIVIDUAL STUDY (Hrs)	102
COURSE ACTIVITY (Hrs)	48
EDUCATIONAL OBJECTIVES OF THE MODULE	
Learn the basic knowledge of the human body in order to be able to recognize a organ and learn to identify it function and location. Learn the structure and function of each apparatus in order to understand the human physiology . Learn the basic techniques of Human Anatomy study and modern applications in biomedicine	

SYLLABUS

Hrs	Frontal teaching
4	Gross anatomy and microscopic anatomy . Levels of organization . Basic functions of a living being . The human body organ systems . Terminology of position and movement . Overview of all the systems of the human body.
22	Basic knowledge and elements on the organ sistems: integumentary system, the skeletal system , muscular system , cardiovascular system , the respiratory system , the digestive system , the urinary system , endocrine system , reproductive system .
14	The nervous system: cell organization of the nervous tissue, the nerve impulse, the sympathetic communication, anatomical organization of the nervous system, spinal cord, meninges, the cerebrospinal fluid, spinal nerves and reflexes, brain organization (trunk brain, cerebellum, diencephalon, telencephalon), somatic and visceral ways of sensibility and motor skills, motor areas, sensitive and integrative, the limbic system, the sense organs, the eye and the optic tract, ear and acoustic streets, smell and taste, relationships between the endocrine and nervous control of homeostasis of the human organism .
8	Principles of Human embryology