



General information	
Academic subject	Human Anatomy
Degree course	Pharmacy
Year of study	First
European Credit Transfer and Accumulation System (ECTS)	8
Language	Italian
Academic Year	2021/22
Academic calendar (starting and ending date)	Annual (November – May)
Attendance	Yes

Professor/ Lecturer Course A-E	
Name and Surname	Calvello Rosa
E-mail	rosa.calvello@uniba.it
Telephone	080 5442792
Department and address	Pharmacy building, 1 st floor, room: 234
Virtual headquarters	Teams code : 7zntg7n
Tutoring (time and day)	By appointment via e-mail Via teams

Professor/ Lecturer Course F-N	
Name and Surname	Panaro Maria Antonietta
E-mail	mariaantonietta.panaro@uniba.it
Telephone	080 5442792
Department and address	Pharmacy building, 1 st floor, room: 234
Virtual headquarters	Teams code : ztat78h
Tutoring (time and day)	By appointment via e-mail Via teams

Professor/ Lecturer Course O-Z	
Name and Surname	Panaro Maria Antonietta
E-mail	mariaantonietta.panaro@uniba.it
Telephone	080 5442792
Department and address	Pharmacy building, 1 st floor, room: 234
Virtual headquarters	Teams code : ztat78h
Tutoring (time and day)	By appointment via e-mail Via teams

Syllabus	
Learning Objectives	The specific training objectives of the Master's degree course in Pharmacy are to provide the set of theoretical and practical knowledge in the biological, chemical, pharmaceutical, technological, pathophysiological, pharmacological and toxicological fields, which allow graduates to deal with the entire sequence of the complex. multidisciplinary process that from the structural design, leads to the production, regulation, marketing and correct use and control of the drug, according to the codified standards.
Course prerequisites	Knowledge of the morphi-functional characteristics of the animal cell acquired during cell biology, in order to optimize learning and to make the contents of human anatomy teaching more understandable.



Contents	<p>PART OF HISTOLOGY - Organization of the human body tissues: epithelial lining and glandular tissues; connective tissues proper (loose and dense) and adipose tissue; cartilage and bone tissue; blood tissue; muscle tissue: skeletal, cardiac and smooth; nervous tissue.</p> <p>PART OF ANATOMY - Organization of the human body: anatomical terminology, axes and planes of the human body, terms of position and movement; body cavities; epithelial and connective membranes of the body; general structure of hollow and solid organs. INTEGUMENTARY SYSTEM - Structural characteristics and function of the skin and skin appendages. LOCOMOTOR SYSTEM - Morphological characteristics of the bones and their classification; structural organization of the axial and appendicular skeleton; the joints (synarthrosis and diarthrosis); general organization of muscles. CARDIOVASCULAR SYSTEM - Large and small circulation; seat, relationships and external and internal conformation of the heart; heart valves; conducting tissue of the heart and cardiac cycle; the pericardium; structure of blood vessels and major arteries and veins of the systemic and small circulation. LYMPHATIC SYSTEM - Organization of lymphatic circulation, structure of lymphatic vessels and lymph; structure and function of the lymphoid organs (bone marrow, thymus, spleen and lymph nodes), thymic and medullary lymphocytopoiesis. RESPIRATORY SYSTEM - Morpho-functional characteristics of the nasal cavities and paranasal sinuses, nasopharynx, larynx, trachea and main bronchi; architecture and structure of the lungs and bronchial tree; the pleurae. DIGESTIVE SYSTEM - Location, relationships, structure and function of the organs of the digestive tract (buccal cavity, tongue, teeth, major salivary glands, pharynx, esophagus, stomach, small and large intestine); liver and pancreas; the peritoneum. UROPOIETIC SYSTEM - Location, relationships, structure and function of the kidney; the nephron, the juxtaglomerular apparatus and the urinary tract. REPRODUCTIVE SYSTEM - General organization of the male and female genital system. ENDOCRINE SYSTEM - Location, structure and function of the endocrine glands (pituitary, epiphysis, thyroid and parathyroid glands, adrenal gland and pancreatic islets). NERVOUS SYSTEM - Organization of the central and peripheral nervous system. Exteroceptive, proprioceptive and introceptive sensitivity and receptors. The spinal cord: architecture of the gray and white matter and spinal reflexes. General information on the spinal nerves. The brain stem (bulb, pons and midbrain). General information on the cranial nerves. The cerebellum and structure of the cerebellar cortex. The diencephalon (thalamus, hypothalamus, metathalamus and epithalamus). The telencephalon: organization of the cerebral cortex and cerebro-cortical areas; semi-oval center, nuclei of the base and interhemispheric formations. The limbic system. Organization of the sensory and motor pathways. The meninges, cerebral ventricles and cerebrospinal fluid. Blood brain barrier. General information on the spinal and cranial nerves. Vegetative nervous system: sympathetic and parasympathetic. General organization and function of the sense organs: sight and hearing.</p>
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Books and bibliography	Barbatelli G. – Anatomia Umana- Edi-ermes Martini – Anatomia Umana – EdiSES McKinley – Anatomia Umana- Piccin Tortora G.J. – Principi di Anatomia Umana – Ambrosiana Anastasi G.- Atlante di Anatomia Umana –Edi-ermes Prometeus - Atlante di Anatomia - EdiSES
Additional materials	Possibility to use the illustrated slides of the lessons made available by the teacher.

Work schedule			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
Hours			
200	80		120
ECTS			
8			
Teaching strategy	Theoretical lessons supported by power point presentations and the use of 3D anatomical models to allow the recognition of structural features and topographic relationships between the various organs of the human body. The teaching course is delivered in modality blended learning.		
Expected learning outcomes			
Knowledge and understanding on:	The student will have to know the structural organization of the human body, from the macroscopic to the microscopic level, the topographic relationships between the various organs of the human body and the anatomical terminology useful for the morphological description of the anatomical structures. Furthermore, the student will have to understand the relationship that exists between the different anatomical structures and their function. This knowledge and understanding will be acquired through lectures.		
Applying knowledge and understanding on:	The student must be able to recognize and describe the various anatomical structures and acquire a methodological study criterion useful for understanding the architecture and functional interactions of the various structures of the human body. These skills will be acquired through frontal teaching.		
Soft skills	<ul style="list-style-type: none"> • <i>Making informed judgments and choices</i> The student will have to acquire, under the guidance of the teacher, a capacity for autonomy and critical reflection relating to the structural organization, macro and microscopic, of the various systems of the human body and their function. • <i>Communicating knowledge and understanding</i> The student must be able to expose the anatomical knowledge through an appropriate use of the anatomical terminology that he will acquire during the frontal teaching • <i>Capacities to continue learning</i> The student will have to learn a critical ability and a methodology that allows him to expand his knowledge, independently, also using alternative sources not 		



	necessarily provided by the teacher.
Assessment and feedback	
Methods of assessment	Oral examination
Evaluation criteria	<ul style="list-style-type: none">• <i>Knowledge and understanding</i> The student must demonstrate knowledge and understanding of the organization of the tissues, the topographical position and the morpho-functional characteristics of the organs and systems of the human body.• <i>Applying knowledge and understanding</i> The assessment will take into account the student's ability to have acquired skills and tools that allow him to study mostly independently.• <i>Autonomy of judgment</i> In addition to the knowledge of anatomical structures, the student will have to demonstrate that they have acquired the ability to independently and critically analyze the functional interactions of the various structures of human anatomy provided for in the study program.• <i>Communication skills</i> The ability to clearly express the topics of the study program and the acquisition of an adequate scientific language will allow you to pass the exam with a very positive evaluation.• <i>Capacities to continue learning</i> The student will have to demonstrate that they have acquired a basic knowledge of the macroscopic and microscopic structure of the organs and systems of the human body, oriented in a functional key.
Criteria for assessment and attribution of the final mark	The evaluation parameters are: a correct knowledge of the morpho-functional characteristics of the structures of the human body, the ability to expose them with a logical sequence of consequential points using correct terminology. The final grade is awarded out of thirty. The exam is passed when the grade is greater than or equal to 18.
Additional information	