DIPARTIMENTO DI SCIENZE

COURSE: **ANATOMY**			
ACADEMIC YEAR: **2019-2020**			
TYPE OF EDUCATIONAL ACTIVITY: **Basic**			
TEACHER: **Angelica Perna**			
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Language: **English**			
ECTS: **6**	n. of hours: **48**	Campus: **Potenza** Dept./School: **Dipartimento di Scienze** Program: **Biotechnology**	Semester: **I** (from 01/10/2019 to 20/12/2019-20/01/2020)

EDUCATIONAL GOALS AND EXPECTED LEARNING OUTCOMES

The objective of the Course of Human Anatomy is to systematically and topographically describe the conformation and structure of the human body in its macroscopic and microscopic aspects in the different periods of life, describe the organogenesis and the various stages of development identifying individual and constitutional differences, provide a methodological and preparatory approach to clinical reasoning.

During this course the student will have to learn about the structural organization of the human body from the macroscopic to the microscopic level as well as the most important anatomical-clinical and functional information. At the end of the course he will have to recognize the functional morphological characteristics of the systems, organs, tissues and cells of the human organism, as well as their main morpho-functional, anatomical-topographical and clinical anatomical correlates. He will also have to acquire the correct anatomical terminology with the main objective of communicating effectively with colleagues, of understanding and using international anatomical terminology (FCAT) in different research and clinical contexts.

PRE-REQUISITES

The student must demonstrate that he has the essential knowledge of the cell and the tissues.

SYLLABUS

GENERAL OVERVIEW 5 hours

General characteristics of the organization of the human body. General systemic considerations on the apparatuses.
The anatomical terminology.
General characteristics of bones: classification and terminology.
Differences between the male and female skeleton. Skeleton changes with age.
General characteristics of the joints.
General characteristics of the muscles: classification, terminology, structure and innervation.
General considerations on the statics and dynamics of the locomotor system. The muscle chains.
General information on the structure of the arteries, veins and capillaries. The functional meaning of the collateral branches, terminal branches, distribution territory, anastomoses and collateral circles: examples and clinical correlations.
Overview of the origin, course, territory of distribution of the main arteries and veins.
General information on the lymphatic system and on the structure of the lymphatic vessels.
Definition of the main lymphatic collectors and the main lymph node stations. Lymphatic organs

HEAD AND NECK 5 hours

Overview and anatomy of surface, skin and fasciae of this region.
Overview of bones, joints, muscles, vasculature and lymphatic drainage.
The Skull: overview of the various planes and its surface anatomy.
Morphological characters of the various bones that make up the skull.
The skull as a whole (neurochranium and splanchnocranium)
Morphological and functional characteristics of mimic muscles and chewing muscles.
Vascularization, innervation, lymphatic drainage and lymph node stations of the head.
Anatomy of the neonatal, pediatric and geriatric skull.
Main clinical considerations related to the topics covered.
The oral cavity: overview, cheeks, lips, vestibule and floor of the mouth.

The palate and the isthmus of the mouth and its contents. Nose, nasal cavity and paranasal sinuses.
Overview of the neck

BACK 5 hours
Surface anatomy of the back.
General morphological characteristics of the vertebrae and peculiarities of the different vertebral segments. Joints of the spine and ligaments. Functional anatomy of the spine as a whole.
Morphological and functional characteristics of the muscles of vertebral grooves and back muscles.
Vascularization, innervation, lymphatic drainage and lymph node stations of the back.
Skeletal and muscular points of landmarks. Posture and ergonomics.
Main clinical considerations related to the topics covered.

THORAX 5 hours
Overview and surface anatomy of the chest wall and breast.
Morphological characteristics of the thoracic segment of the spine, ribs, sternum and related costovertebral and sternocostal joints.
Functional anatomy of the rib cage. Overview of the use of chest muscles in respiratory mechanics.
Main clinical considerations related to the topics covered.
Topographic organization of the thoracic cavity: The mediastinum and its subdivision.
The pleural lodges.
Organs contained in the upper mediastinum: thymus, large vessels, trachea, esophagus.
Description of their overview, form, relationships, vascularization, lymphatic drainage, innervations and microscopic anatomy. Clinical considerations of the topics covered.
Organs contained in the lower mediastinum: the heart, esophagus, descending aorta.
Description of their overview, form, relationships, vascularization, lymphatic drainage, innervations and microscopic anatomy. Clinical considerations of the topics covered.
The Pleura and the lungs: description of their overall vision, form, relationships, vascularization, lymphatic drainage, innervations, microscopic anatomy.
Clinical considerations of the topics covered.

UPPER AND LOWER LIMB 10 hours
Morphological characteristics of the bones of the upper and lower limbs and related joints.
Morphological and functional characteristics of the muscles of the upper and lower limbs.
Vascularization, innervation, lymphatic drainage and lymph node stations of the upper and lower limbs.
Main clinical considerations related to the topics covered.

ABDOMEN and PELVIS 10 hours
Morphological and functional characteristics of the muscles and fasciae of the abdomen.
Vascularization, innervation, lymphatic drainage and lymph node stations of the abdominal wall.
Main clinical considerations related to the topics covered.
Overview and surface anatomy of abdomen and abdominal wall.
Comparisons between the limits of the abdominal wall and the abdominal cavity.
Organization of the peritoneum: the meaning and distribution of the mesenteries and ligaments.
Supramesocolic organs: Liver, gallbladder, stomach and spleen.
Description of their overview, form, relationships, vascularization, lymphatic drainage, innervations and microscopic anatomy. Clinical considerations of the topics covered.
Submesocolic organs: Small intestine and large intestine.
Description of their overview, form, relationships, vascularization, lymphatic drainage, innervations and microscopic anatomy. Clinical considerations of the topics covered.
Retroperitoneal organs: Kidneys, renal pelvis and ureters.
Description of their overview, form, relationships, vascularization, lymphatic drainage, innervations and microscopic anatomy. Clinical considerations of the topics covered.
Morphological characteristics of the pelvic bones. Description of pelvis diameters
The perineum: vascularization, innervation, lymphatic drainage and lymph node stations.
Organs of the female and male genital tract: description of their overall vision, shape, ratios, vascularization, lymphatic drainage, innervations and microscopic anatomy.
Clinical considerations of the topics covered.

NEUROANATOMY 5 hours
The ontogenesis of the central nervous system.
The arterial network and the venous drainage of blood from the brain and spinal cord.
The structure of the meninges, the organization of large dural venous sinuses.
The ventricles, the system related to the production, circulation and drainage of cerebrospinal fluid.
Topography of the spinal cord. Organization of gray and white spinal cord substance.
Topography of the encephalic trunk. Medulla Oblungata, pons, midbrain and nuclei of the cranial nerves.
Organization of the cerebellum: topography and organization of the cortex.
General organization of the Diencephalon.
Division of the thalamus and thalamic and thalamocortical circuits.
Hypothalamus, subthalamus, epithalamus: topography and divisions.
Telencephalon: Structural and functional subdivision of the neocortex overview of the functional circuits.
Basal ganglia: topography, connections and circuits.
Peripheral nervous system

SENSORY ORGANS 3 hours
Generality of sense organs. Ear and acoustic way. Eye and optical path.

TEACHING METHODS
Theoretical lessons, Classroom tutorials, Laboratory tutorials .

EVALUATION METHODS
Written examination followed by oral examination
There are also 2 intermediate tests for students who will follow the course. These tests consist of questions that relate to topics covered up to the test, accompanied by a final oral exam for the part not covered in the tests.
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TEXTBOOKS AND ON-LINE EDUCATIONAL MATERIAL
Gray's Anatomy for student - Elsevier
Netter's of Essential Histology Elsevier
Atlas of Anatomy – Prometheus – Thieme
Research Material: Gray's Anatomy – 41 edition - Elsevier

INTERACTION WITH STUDENTS
The teacher is available for a reception with the students at the Department of Sciences (classroom to be defined) after contacting email at the address: angelica.perna@unimol.it

EXAMINATION SESSIONS (FORECAST)[1]
10/01/2020
07/02/2020
06/03/2020
22/05/2020
12/06/2020
10/07/2020
11/09/2020
09/10/2020
11/12/2020

SEMINARS BY EXTERNAL EXPERTS YES □ NO

[1]Subject to possible changes: check the web site of the Teacher or the Department/School for updates.

FURTHER INFORMATION