

HUMAN ANATOMY PH000006

1. language

Italian.

2. course contents

Coordinator: Prof. Camilla Bernardini

Academic Year: 2022/2023

Year Course: 1

Semester: II°/2nd

CFU/UFC: 7

CFU: 5

Modules and lecturers:

- HUMAN ANATOMY (PH000006) - 5 CFU - ssd BIO/16

Prof. Camilla Bernardini (2,5 CFU), Valentina Corvino (2,5 CFU)

3. bibliography

Barbatelli et. al – Anatomia Umana-Fondamenti, EDIERMES

Martini F.H. - Anatomia Umana, Edises

Netter - Atlante anatomia umana. Selezione Tavole per corso di laurea in farmacia e CTF, EDRA

The student must refer to indicated texts of Anatomy or to another text after approval by the lecturer. Anatomy atlas is optional.

4. learning objectives

The Human Anatomy course is aimed at providing the student with an exhaustive knowledge of the structure, organs and organ systems of the human body, necessary for the understanding of their functions.

The course includes an introduction to the basics of histology, and will focus on the study of the microscopic and macroscopic characteristics of each organ and their relation to functional and clinical correlates relevant to the knowledge and function of drugs.

Knowledge and understanding (Dublin 1) At the end of the course, students must demonstrate an adequate knowledge of the histological bases of the tissues and organs that make up the

systems, the structure and the most important topographical relationships of the organs of all the systems

Applying knowledge and understanding - (Dublin 2) At the end of the course, the student must be able to apply the knowledge acquired on the structure of tissues, the morphology of organs and their topographical relationships in order to understand their functions. These skills are indispensable for adequate knowledge and understanding of the mechanisms of action of the main classes of drugs and their use.

Making judgements - (Dublin 3) By the end of the course, the student must have developed autonomous skills in the integration of the notions learnt in order to recognize the characteristics and differences between organs of the body, preparatory to the study of their function.

Communication skills– (Dublin 4)

Students should be able to identify and describe tissues and organs using the correct terminology and should be able to express themselves clearly and unambiguously with specialist and non-specialist interlocutors.

Learning skills – (Dublin 5)

At the end of the course, the student will be able to demonstrate good self-assessment skills and the ability to autonomously investigate using all available tools such as databases, scientific texts and articles, and participation in specialized seminars and conferences.

5. PREREQUISITES

A good knowledge of basic science subjects, in particular biology, chemistry and physics, acquired in the high school curriculum is required.

6. teaching methods

The teaching methodology is based on frontal lesson carried out with the aid of image projections that will be delivered in presence from the classrooms of the Università Cattolica del Sacro Cuore, in compliance with security measures. The online teaching, using the web platform (Blackboard or TEAMS), could be required due to the emergency linked to the dissemination of Corona virus-19 (COVID-19).

The frontal teaching of the Anatomy course is supplemented by the use of anatomical models.

During lectures, students will be interactively involved and will be encouraged to formulate questions, request insights and improve their communication skills by trying to use the most appropriate terminology.

The moments of dialogue will provide the lecturer with the opportunity to receive immediate feedback on the organization and effectiveness of the teaching activity.

7. other informations

For any clarifications on lecture topics, examinations and the course, students may request information from the lecturers either at the end of the lecture or by making an appointment by e-

mail.

8. methods for verifying learning and for evaluation

The assessment is designed to verify the student's knowledge of the course content and the exposition skills. An oral final examination is scheduled, which will include at least two questions for each module. The final mark is expressed in thirtieths and results not only from the number of correct answers given but also from student's demonstration of having acquired excellent expressive, synthesis and content analysis skills.

To obtain honors, the student will possibly have to answer a specific question.

9. program

Elements of Histology: Epithelial tissue: lining epithelia, glandular epithelia, sensory epithelia: classification, morpho-functional characteristics and main localisations. Connective tissues: connective tissue proper, liquid connective tissues, support connective tissues. Muscle tissue: histology of smooth, cardiac and skeletal muscle tissue. Nervous tissue: neurons, synapses, glial cells, myelin structure.

Introduction to the study of Anatomy: Microscopic and macroscopic anatomy. Levels of organisation. Surface anatomy, anatomical regions, anatomical positions.

Skeletal system: Structure and function of bone, anatomy of skeletal elements, axillary and appendicular component. Joints: classification, form and function, types of movement. Examples of mobile joints.

Muscular apparatus: Axillary and appendicular musculature: outlines of origins and insertions, actions, types of movement.

Tegumentary apparatus: skin and cutaneous adnexa.

Cardiovascular System: Mediastinum. Heart: conformation and structure. Pericardium. Microscopic structure of the vessels. Large and small blood circulation. Aorta, coronary arteries, main branches of the aorta. Venae cavae, venous vessels, deep and superficial venous system. Fetal circulation.

Lymphatic system: Generalities on lymph and lymphatic vessels. Structure and function of lymphatic organs: bone marrow, lymph nodes, spleen, thymus, tonsils.

Respiratory system: Macroscopic, microscopic and functional anatomy of nose, pharynx, larynx, trachea, bronchi, bronchial tree. Lungs. Pleura.

Digestive system: Macroscopic, microscopic and functional anatomy of oral cavity, tongue, pharynx, salivary glands, oesophagus, stomach, small intestine, large intestine. Adnexal glands: pancreas, liver and biliary tract.

Urinary apparatus: Macroscopic, microscopic and functional anatomy of ureter, bladder, male and female urethra.

Male and female genital system: Macroscopic, microscopic and functional anatomy of male and female gonads, uterus, tubes and vagina, spermatic pathways, prostate and seminal vesicles.

Central nervous system (macroscopic, microscopic and functional anatomy): encephalon (cerebral

hemispheres: cerebral cortex, semioval centres, organisation of the white matter; diencephalon: dorsal thalamus and hypothalamus, brainstem and spinal cord). Cranial and spinal meninges. Ventricular system and cerebrospinal fluid circulation. Somatosensory pathways. Motor pathways (corticospinal bundle). Peripheral nervous system: structure of the peripheral nerve, generalities on the brachial and lumbosacral plexus and main terminal branches. Autonomic nervous system: organisation of the orthosympathetic and parasympathetic systems. Receptors and sense organs: generalities on sensory receptors. Eye. Ear.

Endocrine system: macroscopic, microscopic and functional anatomy of hypothalamus, pituitary, thyroid, adrenal glands.