

HUMAN ANATOMY 1 (MG0100)

Integrated course

1. language

Italian

2. course contents

Coordinator: Prof. Amelia Toesca

Year course: I°

Semester: II°

UFC: 4

Modules and Lecturers:

ANATOMIA UMANA (MG0026) - SSD (BIO/16) (3 UFC):

Prof. Amelia Toesca, Prof. Valentina Corvino (I° canale)

Prof. Claudio Sette, Prof. Camilla Bernardini (II° canale)

ANATOMIA UMANA ATTIVITA' PROFESSIONALIZZANTE (MG000009) - SSD (BIO/16) (1 UFC):

Dr. Valentina Corvino, Dr. Stefano Giannetti, Dr. Giovanni Monego, Dr. Chiara Naro, Dr. Vittoria Pagliarini, Dr. Giovanni Zelano.

3. bibliography

S. STANDRING, Anatomia del Gray, Ed. Edra

G. ANASTASI et al., Trattato di Anatomia Umana, Ed. Edi-Ermes

F.H. NETTER, Atlante di anatomia umana, Ed. Edra

PROMETHEUS, Atlante di Anatomia, 2ª edizione italiana, Ed. EdiSes

AUTORI VARI, Istituzioni di Anatomia dell'uomo, Testo/Atlante, 12a edizione, Ed. Piccin

G. ANASTASI, C. TACCHETTI, Atlante Anatomia Umana, 1ª edizione, Ed. Edi-Ermes

K.L. MOORE, A.D. DOLLEY, Anatomia Umana con riferimenti clinici, Ed. Casa Editrice Ambrosiana

G. FAMILIARI, Anatomia Microscopica, Ed. Piccin

It is necessary for the student to have an Anatomy text of their choice from the recommended ones or another text after approval by the Lecturers. It is strongly recommended to choose an Anatomy atlas from the recommended ones. The microscopic anatomy text is optional. The Anatomy text and Atlas also include the Human Anatomy 2 program.

4. learning objectives

The aim of the course is to provide the student with the skills necessary to understand and know the relationship, conformation and organization of the anatomical structures of the human body, with particular focus on the skeletal system and the organs of the neck and thorax, and to apply the knowledge acquired to the recognition of anatomical structures in radiological images. These skills are necessary to be able to fully learn the contents of the subsequent studies on the pathophysiology of organs and to be able to understand the contents of the surgical disciplines.

Knowledge and understanding - (Dublino 1) At the end of the course, the student must demonstrate to have acquired the skills to understand and know the topographic, macroscopic and microscopic organization of the anatomical structures of the human body, that he/she is able to apply the acquired knowledge to the recognition of anatomical structures in radiological images, and that he/she has understood how the study of anatomy is an indispensable prerequisite for understanding the pathophysiological mechanisms of the structures of the human body.

Applying knowledge and understanding – (Dublino 2) At the end of the course, the student must be able to apply the knowledge acquired on the morphological and functional organization of anatomical structures to recognize possible alterations related to the functional mechanisms of human body structures.

Making judgements - (Dublino 3) At the end of the course, the student must be able to integrate the acquired knowledge and skills and to be able to recognize the differences between physiological and non-physiological anatomical structures.

Communication skills – (Dublino 4) At the end of the course, the student should be able to identify and describe anatomical structures using the correct terminology and to express him/herself clearly and unambiguously to specialist and non-specialist interlocutors.

Learning skills – (Dublino 5) At the end of the course, the students should be able to self-assess their skills, expand their knowledge and update themselves by independently querying texts, scientific articles and online platforms.

5. PREREQUISITES

For the full comprehension of the human body anatomy, it is necessary for the student to have knowledge of the basic science subjects, in particular he/she must have already acquired notions of Biology and must attend the Histology lessons.

6. teaching methods

Teaching is provided through lessons with the aid of image projection. In the Human Anatomy 1 course, an attempt is made to cover all the topics described in the program, with particular emphasis on the most relevant and essential aspects for the formation of a future physician, in order to provide the student with a complete overview of the knowledge to be acquired and the correct method of study. Frontal teaching is integrated with professional activity on macroscopic, microscopic and radiological anatomy topics. The professional activity requires students, divided into groups, to become capable to identify in radiological images the anatomical structures described in the frontal lectures, and in microscopic anatomy exercises based on the observation and description under the light microscope of histological preparations of organs of the cardiovascular system. Students can also participate to Anatomy lessons using the Anatomage anatomical table located at the GTC of Policlinico Gemelli.

During the course, there will be self-study hours: students in small groups will be able to examine anatomical sections of the human body on the computer and compare them with CT or MRI X-ray images (Visible Man Project). During the study of osteology, students will be provided with models of whole skeletons, disassembled skulls and individual skeletal segments.

7. other informations

The Lecturers are available for information on the course and clarification of the lesson topics by appointment made by e-mail or, if a quick request is needed, at the end of the lessons.

Student's choice activities: 1) "Nuclear medicine: from diagnosis to therapy, from clinical to research" Dr. Silvia Taralli (2 hours, 0.25 UFC).

8. methods for verifying learning and for evaluation

The evaluation is focused to verify the full and correct knowledge of the information acquired. The

Human Anatomy 1 course is attendance only and does not include a final examination, but during the Anatomy 1 course an intermediated written test with figures and multiple-choice questions on the osteoarticular system and the myology of the upper and lower limbs is scheduled. At the end of the Anatomy 1 course the student can attend an intermediate written test with multiple-choice questions on the heart and lungs. In the written tests, which require mainly notionistic study with some clinical references, only a part of the program covered in the Human Anatomy 1 course is evaluated; the remaining program is included in the Anatomy examination with the program covered in the Human Anatomy 2 course. The evaluation is expressed in thirtieths and a minimum mark of 18/30 is required to pass each test. The written tests are optional and not propaedeutic. To attend the Human Anatomy 2 exam, the student must have passed all the intermediate written tests. The intermediate tests taken during the Human Anatomy 1 and Human Anatomy 2 courses will count for 1/4 of the final grade of the Anatomy exam. The intermediate tests taken during the Anatomy Course are valid until the extraordinary examination session in December 2026.

The Human Anatomy examination takes place in oral form at the end of the Human Anatomy 2 course. Full knowledge of anatomical structures and the student's ability to express himself using correct and unambiguous terminology may be assessed there.

9. /program

<HUMAN ANATOMY 1>

Levels of organization of the human organism, anatomical position, reference planes, terms of direction, anatomical nomenclature, body regions and cavities. Projection of the organs of the neck and thorax on the surface wall of the trunk.

Skeletal system. Macroscopic classification and characteristics of bones; bones of the trunk, head and limbs; joints: classification and characteristics; in detail macroscopic anatomy and ligaments of the joints of the spine, shoulder, elbow, hip, knee; radiological imaging anatomy of the osteoarticular system.

Muscular system. Origin, insertion, action of the muscles of the head and neck, muscles of the thorax, diaphragm and breathing muscles, muscles of the upper and lower limbs. Muscles of the face.

Neck: topographical anatomy, regional subdivision and contained organs, cervical fasciae, ligaments.

Thoracic wall: general organization.

Mediastinum: definition, limits and subdivision.

Cardiovascular system. Heart: topography, relationships, external and internal morphology, microscopic anatomy, fibrous skeleton, organization of the atrial and ventricular myocardium, cardiac conduction system; coronary arteries and veins, pulmonary vessels; cardiac plexus; organogenesis; anatomy by imaging. Systemic circulation and pulmonary circulation. Fetal circulation.

Blood vessels: general characters and microscopic anatomy of arterial and venous vessels; major arterial and venous anastomotic circles of the head, neck, chest and upper limbs. Origin, pathway, territory of distribution, relationships of the aorta and its branches; branches of the ascending aorta, aortic arch and thoracic aorta with terminal and collateral branches. Main venous vessels of the head, neck and thorax. Arterial and venous vessels of the upper and lower limbs. Radiological anatomy of the aorta and major vessels of the head, neck, trunk, limbs.

Lymphatic system, generalities, organization; lymphatic vessels; thymus, external conformation, structure, relationships; lymph nodes; lymph node stations and major lymphatic networks of the head, neck and thorax; Waldeyer's lymphatic ring.

Serous membranes: pericardium, pleura.

Respiratory system. External and internal conformation, structure, microscopic anatomy, relationships of nasal cavities, paranasal sinuses, larynx, trachea, bronchi, lungs; lung segments; nutritional and functional vessels, innervation, lymphatic drainage; imaging anatomy of bronchi and lungs.

Digestive system. External and internal conformation, structure, microscopic anatomy, relationships of oral cavity, tongue, palate, major and minor salivary glands, pharynx, esophagus; blood vessels, innervation, lymphatic drainage.

Mammary gland.

<TIROCINIO PROFESSIONALIZZANTE>

Macroscopic anatomy of bones

Joints

Muscles of the upper limb and lower limb

Radiological anatomy of the skeletal system

Radiological anatomy of the heart and coronary arteries

Radiological anatomy of the thoracic aorta and branches of the arch of the aorta

Radiological anatomy of the vessels of the upper and lower limbs

Radiological anatomy of the bronchi and lung

Microscopic anatomy of the cardiovascular system

Macroscopic anatomy of thoracic cavity