

human anatomy (OPR075)

Integrated course

1. language

Italian

2. course contents

Coordinator: Prof.ssa Amelia Toesca

Year Course: I°

Semester: II°

UFC: 9

Modules and lecturers:

GENERAL ANATOMY (OPR108) (SSD BIO/16) (5CFU): Prof. Amelia Toesca

SPECIAL ANATOMY (OPR109) (SSD BIO/16) (4CFU): Prof. Amelia Toesca

3. bibliography

BARBATELLI G. et al. "Anatomia Umana – Fondamenti", Edi-Ermes, Milano

MARTINI F.H. et al. "Anatomia Umana", EdiSES

TORTORA G.J. "Principi di Anatomia Umana", Casa Editrice Ambrosiana

VERCELLI A. et al. "Anatomia Umana funzionale", Ed. Minerva Medica, Torino

LLOYD DUBRUL E. "Anatomia Orale di Sicher", Edi-Ermes, Milano

FONZI L. "Anatomia funzionale e clinica dello splancnocranio", Edi-Ermes, Milano

NETTER F.H. "Atlante di Anatomia Umana", Ed. Edra, Milano

PROMETHEUS "Atlante di Anatomia", EdiSES

SOBOTTA "Atlante di Anatomia Umana – Testa, collo e neuroanatomia", Ed. Edra, Milano

It is necessary for the student to have an Anatomy text of his choice from the recommended ones (Barbatelli, Martini, Tortora, Vercelli) or another text after approval of the Lecturer, and a Special Anatomy text from the two recommended ones (Fonzi, Lloyd Dubrul). It is optional but strongly recommended to choose an Anatomy Atlas from the recommended ones.

4. learning objectives

The aim of the course is to provide knowledge of the structural organisation of all the components of the human body, from the macroscopic to the microscopic level. Particular attention is given to the study of the morpho-functional organisation of the stomatognathic apparatus, with reference to topographical, functional and clinical relationships, and to the study of anatomical structures of odontostomatological interest in the head and neck.

Knowledge and understanding (Dublino 1) At the end of the course, the student must demonstrate that he/she has acquired the knowledge of the morphological and functional organisation of the structures of the human body with particular reference to the stomatognathic apparatus and that he/she has understood how the study of anatomy is an essential prerequisite for understanding the functional mechanisms of structures of dental interest.

Applying knowledge and understanding (Dublino 2) At the end of the course the student must demonstrate that he/she knows and has understood that the study of anatomical structures is not

an end in itself but represents an indispensable requirement in the application of clinical practice. The student must be able to apply the knowledge acquired on the morphological and functional organisation of the structures of the human body in order to identify problems, even novel ones, related to the functional mechanisms of structures of dental interest.

Making judgements (Dublino 3) At the end of the course, the student must be able to integrate the knowledge and skills learnt to recognise 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 be able to express him/herself clearly and unambiguously to specialist and non-specialist interlocutors.

Learning skills (Dublino 5) At the end of the course, the student should be able to self-assess his/her skills, expand his/her knowledge and update him/herself by drawing on texts, scientific articles and online platforms independently.

5. PREREQUISITES

It is necessary for the student to have knowledge of basic science subjects and to attend lectures in the Histology course. The study plan of the degree course in Dentistry requires that the Applied Biology exam be passed before taking the Anatomy exam.

6. teaching methods

Teaching is provided through lectures with the aid of image projection. In the Anatomy course, an attempt is made to cover all the topics described in the program so as to provide the student with a complete overview of the knowledge to be acquired and the correct method of study. In particular, in the Special Anatomy course, the most relevant and indispensable aspects for the education of a future dentist are highlighted, providing application perspectives. During lectures, students are stimulated to actively participate through questions on the topics of the current or previous lectures and encouraged to express themselves using the correct terminology.

For the study of osteology, students are provided with a whole skeleton model, models of decomposable skulls and skeletal segments of the trunk and limbs.

7. other informations

The Lecturer is 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.

8. methods for verifying learning and for evaluation

During the Anatomy course, three intermediate written tests on the following topics are scheduled 1) osteoarticular system, 2) thoracic cavity, with particular reference to heart and lung, 3) organs of the abdominal cavity; the vote is expressed in thirtieths and the minimum mark for passing each test is 18/30. The intermediate written tests are optional and propedeuticity is not required. To attend the Anatomy exam, the student must have passed all the intermediate written tests. The intermediate tests taken during the Anatomy Course are valid until the extraordinary examination session in December 2024. The final exam is an oral exam based on the topics of Special Anatomy and on the topics of General Anatomy not included in the written tests. The final grade is expressed in thirtieths. The student may obtain the maximum mark of 30/30 if he/she demonstrates that he/she can express him/herself using the correct terminology and that he/she has acquired the knowledge and skills provided by the Course; it is also necessary to have passed the intermediate tests with a minimum mark of 28/30 in each test.

<GENERAL ANATOMY>

- Organisation of the human body, anatomical position, reference planes, terms of direction, anatomical nomenclature, body regions and cavities.
- Locomotor system. General organisation. Classification and characteristics of bones. Vertebral column, bones of the thorax, bones of the limbs. Classification and characteristics of fixed and mobile joints. Synarthroses: sutures, symphyses, synchondroses, gomphoses. Diarthroses (Synovial joints).
Muscular system. General organisation. Breathing muscles: diaphragm muscle, intercostal muscles; insertions and function. Notes on trunk muscles.
- Circulatory system. Cardiovascular system: general organisation; heart: topography and relationships, macroscopic and microscopic anatomy, internal configuration, fibrous skeleton, cardiac conduction system, coronary vessels, pericardium; pulmonary and systemic circulation; microscopic structure of blood vessels; aorta and major branches, superior vena cava and inferior vena cava with their tributaries, portal system, major vessels of the trunk and limbs.
Lymphatic system. General organisation, functions, lymphatic tissue; lymphatic vessels, course of major lymphatic vessels; lymphatic organs (bone marrow, thymus, spleen, lymph nodes, tonsils), topography, relationships, macroscopic and microscopic anatomy.
- Respiratory system. General organisation, macroscopic and microscopic anatomy, vascularisation of the upper and lower airways (nose and nasal cavities, nasopharynx, larynx, trachea, bronchi, lungs); pleura.
- Digestive system. General organisation, macroscopic and microscopic anatomy, vascularisation of pharynx, esophagus, stomach, small and large intestine. Liver, gallbladder and biliary tract, pancreas, macroscopic and microscopic anatomy, vascularisation.
- Urinary system. General organisation, macroscopic and microscopic anatomy, kidneys and urinary tract (ureter, bladder, urethra).
- Endocrine system. General organisation, macroscopic and microscopic anatomy, pituitary gland, thyroid, parathyroids, adrenal gland, epiphysis, APUD system.
- Nervous system. Central nervous system: general organisation; meninges and cerebrospinal fluid circulation; macroscopic and microscopic anatomy of spinal cord, brainstem, cerebellum, diencephalon, cerebral hemispheres. Motor pathways (pyramidal pathway, extrapyramidal system), exteroceptive (tactile, thermal, pain) and proprioceptive sensitivity pathways, special sensitivity pathways (gustatory, olfactory, optical, acoustic).
Peripheral nervous system. Organisation of cranial nerves and spinal nerves
Autonomic nervous system. Organisation of sympathetic and parasympathetic components in the neuraxis and peripheral nerves.
- Sensory organs. Macroscopic anatomy of the eye and the ear.

<SPECIAL ANATOMY>

Macroscopic, microscopic and topographical anatomy of the head and neck.

- Locomotor system: bones of the skull with special reference to maxilla and mandible, paranasal sinuses; cranial fossae, temporal fossa, infratemporal fossa, pterygopalatine fossa, limits and contents; joints, synarthrosis (sutures, synchondrosis, gomphoses), temporomandibular joint. Insertions and function of the muscles of facial expression, muscles of mastication, suprahyoid muscles, infrahyoid muscles, neck muscles.
- Circulatory system: arterial, venous and lymphatic vessels of the head and neck. Details of the origin, course and distribution of the external carotid artery and its branches, in particular the internal maxillary artery. Internal jugular vein and its tributaries. Main lymph node stations of the head and neck.
- Stomatognathic system: oral cavity, teeth, tongue, major salivary glands, macroscopic and microscopic anatomy, vascularisation, innervation.
- Nervous system: cranial nerves, in particular 5th, 7th, 9th 10th, 12th pair, central nuclei, peripheral course, distribution territory. Parasympathetic ganglia. Gustatory pathway. Cortico-nuclear bundle. Trigeminal lemniscus.