



HUMAN ANATOMY NOTIONS

Enrollment year	2019/2020
Academic year	2021/2022
Regulations	DM270
Academic discipline	BIO/16 (HUMAN ANATOMY)
Department	DEPARTMENT OF BIOLOGY AND BIOTECHNOLOGY "LAZZARO SPALLANZANI"
Course	BIOLOGICAL SCIENCES
Curriculum	PERCORSO COMUNE
Year of study	3°
Period	2nd semester (01/03/2022 - 14/06/2022)
ECTS	6
Lesson hours	48 lesson hours
Language	Italian
Activity type	WRITTEN AND ORAL TEST
Teacher	BERTONE VITTORIO (titolare) - 6 ECTS
Prerequisites	Basics of General Biology, with particular reference to the structure of cells and tissues. The contents of the course in Cytology and Histology are preparatory to the topics covered. Basic knowledge of Chemistry, Physics and Genetics. Ability to use the optical microscope
Learning outcomes	<p>The course of Human Anatomy Notions aims to provide the student with not only an analytical description of the anatomical organization of humans, but also to correlate the concepts of form and function (Anatomy-Physiology relationship), and consequently also to establish what are the normal structural / functional conditions as opposed to those that distinguish themselves from being pathological.</p> <p>Particular attention will be given to the treatment of the Nervous System, in order to facilitate the student enrolling in the Neurobiology Master's Degree in this University</p>

In addition to the lectures, various microanatomical preparations, three-dimensional models and all the skeletal elements are presented during practical laboratory, so that the student can describe them, analyze and contextualize them.

According to these assumptions, acquiring the knowledge of Human Anatomy Notions means to lay the foundation for a good knowledge of the structure of the human body that is propedeutic to that of its functioning and its pathologies

The expected learning results are the following:

- Knowledge of the specific language for the description of Human Anatomy, from the microscopic level (structure and cellular functions) to the macroscopic level (morphology and functions of organs and systems).
- Acquisition of descriptive and analytical skills on anatomical structure, as well as development of a critical spirit in the analysis of microscopic preparations.
- Ability to apply the acquired knowledge in the recognition and interpretation of human anatomical structures, starting from illustrations, diagrams, anatomical tables, museum preparations and three-dimensional models.

Course contents

The course provides students with a solid foundation for understanding the fundamentals of Human Anatomy, always taking into consideration the relationship between form and function.

The following topics are covered:

- Basics: cell types, tissues, organs of human body
- Introduction to the human Anatomy. Structural organization of the human body (apparatuses and systems) and anatomical terminology.
- Nervous System: Central NS: brain and meninges, neurons and nerve fibers, spinal cord, sensory and motor paths; Peripheral NS: cranial and spinal nerves; Vegetative NS.
- Endocrine System: hypothalamus, pituitary and pineal gland, thyroid and parathyroid glands, adrenal glands, kidneys and heart, pancreas, gonads..
- Digestive Apparatus: oral cavity and associated structures; localization, morphology and structure of esophagus, stomach, intestine, liver, pancreas; progression and digestion of food.
- Respiratory Apparatus: respiratory tract (nasal path, pharynx, larynx, bronchi), lungs.
Histological characterization and functional principles, mechanical breathing (with reference to structures: alveoli, pleura, etc.)

- Cardiovascular Apparatus: basics on systemic and pulmonary circle, heart, conduction system. Structure of arteries, veins, capillaries; portal systems; haemopoietic and haemocatheretic organs.
- Lymphatic System and lymphoid organs: basics.
- Urinary Apparatus: basics on urinifere paths; morphology and structure of kidney; nephron structure and functional aspects.
- Male genital Apparatus: testes and glands; spermatogenesis. Male genital paths, external genitalia.
- Female genital Apparatus: ovaries and oogenesis, ovarian cycle; uterus and uterine cycle. Female genital paths, external genitalia.
- Skeletal Apparatus: axial skeleton: skull, spine, ribs and sternum; appendicular skeleton: girdles and arts; types of skeletal articulation.
- Tegumental Apparatus: skin, cutaneous glands, cutaneous annexes

Teaching methods

he course uses frontal lessons and laboratory activities.

Through the frontal lectures conducted through Powerpoint presentations, where many exemplifying images alternate with definitions, schemes, lists, traces, and reading keys, the various anatomical structures of man are illustrated with reference to their functioning and to some pathologies with relevant social interest.

The lectures are integrated with videos and other material coming from the network and during the last part of the course are integrated by a series of laboratories. During this practical activity microscopic preparations of the different organs are presented, three-dimensional anatomical models and all the components of the skeletal system, so that the student achieves the objective of recognizing, describing and contextualizing the different human anatomical structures

All the material presented during the lessons and the theoretical parts of the workshops is made available online on the teacher's web page, which can be reached directly or through links on the KIRO platform.

At the end of the course the student will have acquired the anatomical language and the fundamental knowledge to distinguish and adequately describe human anatomical structures.

Attendance at lectures and exercises is strongly recommended.

Reccomended or required readings

Gray's Anatomy, The Anatomical Basis of Clinical Practice – ELSEVIER (in english)

- Anatomia Umana - Martini, Timmons, Tallitsch - EdiSES
- Anatomia Umana - McKinley,O'Loughlin - PICCIN
- Anatomia Umana - Saladin - PICCIN
- Anatomia - Seeley, Stephens, Tate - Idelson/Gnocchi

– Anatomia dell'uomo - Ambrosi et al. - Edi-Ermes
- Atlante di Anatomia Umana - Viguè-Martin - Piccin ed. (or equivalent...)

Assessment methods

The learning is verified through an optional written test in progress on the Nervous System which will be considered valid for 6 months. If passed, the student will have to take an oral exam on the remaining program, with a preliminary practical test consisting in the recognition of a microscopic anatomy preparation chosen from those illustrated during the laboratories, with a question concerning this apparatus and a second one on another apparatus. If the on-going test is not carried out or passed, or if this has expired, a question about the nervous system will be added to the oral exam.

The evaluation criteria take into account the degree of knowledge of the subject, the clarity of the exposition, the property of language, the use of anatomical terminology and the ability to establish logical links between the topics.

Examples of exam questions are presented during the lessons.

Further information

During the course of the workshops that take place during the course and the week before each exam session, a tutor is available to assist and support students in the preparation of the practical exam and is also available to give clarifications on the topics in the program .

Sustainable development goals - Agenda 2030

[The goals](#)