

ANATOMIA E PSICOBIOLOGIA (DIU112)

1. language

Italian

2. course contents

Coordinator: Prof.ssa VALENTINA CORVINO

Year Course: 1st

Semester: 1st

/UFC: 7

Modules and lecturers:

- HUMAN ANATOMY (DIU03A) - 2 cfu - ssd BIO/16

Prof. Valentina Corvino

- CELLULAR BIOLOGY (DIU04A) - 1 cfu - ssd BIO/13

Prof. Andrea Papait

- HISTOLOGY (DIU19A) - 1 cfu - ssd BIO/17

Prof. Cristiana Angelucci

- SOCIAL PSYCHOLOGY (DIU05A) - 3 cfu - ssd M-PSI/05

Prof. Maria Chiara Mentella

3. BIBLIOGRAPHY

For the disciplines of Anatomy, Biology and Histology, the student must refer to indicated texts or to another text after approval by the lecturer; for Social Psychology, handouts are provided by the lecturer.

ANATOMIA: A. Vercelli, M. Bentivoglio et al. Anatomia Umana funzionale, Ed. Minerva Medica

BIOLOGIA: Elena Curtis ed al. Le basi della biologia- Ed. Zanichelli 2017

ISTOLOGIA: Calligaro A et al. Citologia e istologia funzionale- Ed. Edi-Ermes

4. LEARNING OBJECTIVES

The aim of this course is to provide students of an appropriate preparation in the basic disciplines offering thus a solid background for subsequent studies leading to the training of a qualified Dietician.

In particular, the Biology module will focus on cell functions and related molecular mechanisms; the Histology module on the structure, organization and function of the tissues of the human body; the Anatomy module on the general organization of the human body, organs, organ systems and relations between anatomical structures; the Social Psychology module on the dynamics that regulate communication processes, interpersonal relationships, the group and social organizations.

Knowledge and understanding (Dublino 1) At the end of the course, the students must demonstrate an appropriate knowledge of biological systems, both from a molecular and cellular perspective, an understanding of the cytological and histological bases of the tissues and organs that make up the organ systems including their topographical and functional relationships (focusing on the digestive system and the associated glands). They must also have understood the main dynamics regulating interpersonal relationships and relationships between individual and groups

Applying knowledge and understanding - (Dublino 2) At the end of the course, the

student must demonstrate that hi/she understood and is able to integrate the acquired information from the general characteristics of the cell to the structure and function of tissues, organs and systems, also exhibiting knowledge of relationships between structure and functions which are the basis of physiological and pathological processes related to nutrition and dietetics. They must demonstrate the acquisition of theoretical and methodological foundations of social psychology, displaying acquired skills to critically analyze communication processes.

Making judgements - (Dublino 3) The students must demonstrate an in-depth understanding of the interdisciplinary approach of the course, autonomously combining learning from multiple disciplines to understand the morphological, functional and psychological bases of processes on which their professional intervention will focus.

Communication skills– (Dublino 4) The student must demonstrate that he/she is able to comprehensively and correctly present his/her knowledge using an appropriate terminology concerning the most relevant elements underlying molecular and cellular processes, the organization of tissues, organs, apparatuses, their topographical and functional relationships, and the main dynamics governing interpersonal relationships, the group, social organizations.

Learning skills (Dublino 5) At the end of the course, the student will be able to demonstrate a good self-assessment skills, capacity for in-depth study and ability to use all available tools such as databases, scientific texts and articles, participation in specialist seminars and conferences.

5. prerequisites

Student must have general knowledge of biology, physics and chemistry acquired in the high school curriculum

6. TEACHING METHODS

The teaching methodology is based on face-to-face lectures that will be delivered in the classrooms of the Università Cattolica del Sacro Cuore.

During the lectures, teachers will explain the topics of the respective disciplines, emphasizing the multi- and inter-disciplinary aspect of the course and helping students to integrate new knowledge.

Knowledge and understanding (Dublin 1):

During the lessons, students will be involved interactively in order to assess their understanding of the subjects presented and, if necessary, the presence of critical issues or the need for clarification.

Applying knowledge and understanding (Dublin 2): During the lessons, students will be encouraged to engage in open discussion where they can formulate questions, request further information and improve their communication skills. The moments of dialogue will provide the teacher with the opportunity to receive immediate feedback on the organisation and effectiveness of the teaching activity.

Autonomy of judgement - Making judgements (Dublin 3): Students will be encouraged to analyze and summarize the content presented during the lectures and, if necessary, to extend the teaching resources.

Communication skills (Dublin 4): students will be encouraged to intervene by explaining in a logical manner the notions acquired using the most appropriate terminology.

Learning skills - Learning skills (Dublin 5): students will be encouraged to approach study topics with scientific rigour and attention to detail and, if necessary, to extend teaching resources also through the use of IT tools and databases aimed in particular at conducting bibliographical research.

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 achievement of the learning objectives will be assessed by an end-of-course oral examination. For the Human Anatomy module, an optional mid-course examination is planned (heart and respiratory system), the assessment of which will be valid until the end of the summer session. The test will consist of questions of various kinds (figures and/or multiple-choice or open-ended questions). The assessment obtained in passing the mid-course tests during the Human Anatomy course is valid until the summer session and will count for 1/3 of the final mark of the Anatomy module. In the event of a pass in the mid-course test, the oral examination will focus on the remaining topics of the syllabus, otherwise the topics of the in-progress test will be the subject of the oral examination.

During the final examination, the student must answer questions on all topics of the integrated course programme. The objective of the final examination will be to verify the level of competence achieved, assessing the student's ability to respond in a relevant and concise manner with clarity of exposition and command of language and, if required, to make connections and/or explore the various topics in greater depth.

The final mark will be expressed in thirtieths and will be the result of the weighted average of the marks obtained in the four separate modules. To obtain honors, the student must achieve a mark of 30/30 in the four modules of the course.

9. program

HUMAN ANATOMY- Anatomical nomenclature, reference planes. **Skeletal system-** Bones of the skull. Spinal column. Bones of the thorax, upper and lower limbs. Notes on the classification and characteristics of joints. **Muscular System-** Notes on the muscles of the head (mimic, masticatory), the main muscles of the neck, trunk, abdominal wall, upper and lower limbs. Respiratory muscles, diaphragm. **Cardiovascular system-** Mediastinum. Heart: topography, external and internal conformation. Pericardium. Large and small circulation. Aorta and its main branches: coronary arteries, branches of the aortic arch, thoracic aorta and abdominal aorta. Main venous vessels, portal vein. **Lymphatic System-** Lymphatic vessels. Lymphatic organs: lymph nodes, spleen, thymus, tonsils. **Respiratory System-** Topography, relations, external and internal conformation of: Nose, Larynx, Trachea, Bronchi, Lungs, Pleura. **Digestive System-** Topography, macroscopic anatomy and vasculature of: Oral cavity, Teeth, Tongue, Glands, Pharynx, Esophagus, Stomach, Small intestine, Large intestine. Liver, Pancreas. Peritoneum: general organization. **Urinary System-** Kidneys: relations, external and internal conformation, vasculature, nephron. Ureters, Bladder, Urethra. **Endocrine Glands-** Pituitary, Thyroid, Parathyroids, Adrenal Gland. **Central Nervous System-** General organization of: spinal cord, brainstem, hypothalamus (centres of hunger, satiety, thirst), thalamus, cerebellum, brain. Hints on motor and sensory pathways. Meninges and the liquor system. **Peripheral Nervous System-** General organization. Overview of spinal nerves. Overview of cranial nerves; olfactory pathway, gustatory pathway. **Autonomic Nervous System-** General Organization.

HISTOLOGY- Epithelial tissue: Lining epithelia; Glandular epithelia: exocrine glands and endocrine glands; cell surface specializations; intercellular junctions. **Proper Connective Tissue:** cells and extracellular matrix components (fibers and "ground substance"). **Adipose tissue:** white adipose tissue; brown adipose tissue. **Blood:** red blood cells, white blood cells, platelets, plasma. **Nervous tissue** (hints): neurons, neuroglia. **Muscle tissue:** Skeletal, cardiac and smooth muscle tissue. **Gastrointestinal tract:** general histological organization of the gastrointestinal tract; oral cavity: tongue and salivary glands; esophagus; stomach; small intestine; large intestine.