HUMAN ANATOMY

HUMAN NUTRITION AND DIETARY SCIENCES

Academic year 2026-2027

Code: 803970 and 901235/901097 (Double Degree in Pharmacy and Human Nutrition and Dietary Sciences)
Year: First
Semester: 1
Module: 1
Subject area: Human Anatomy
Course type: Basic training/core subject
Department: Anatomy and Embryology
Credits: 6 ECTS
Teaching period: See official academic calendar

TEACHING STAFF

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COMPETENCIES

Competencies corresponding to the module and subject matter are as follows:

General

- CG.1.1 Recognize the essential elements of the profession of Dietitian-Nutritionist, including ethical principles, legal responsibilities and the exercise of the profession, applying the principle of social justice to professional practice and developing it with respect for people, their habits, beliefs and cultures.
- CG.1.2 Develop the profession with respect for other health professionals, acquiring skills to allow you to work as a team.
- CG.1.3 Recognize the need to maintain and update professional competence, autonomously and continuously. To give special importance to acquiring new knowledge, products and techniques in nutrition and food, as well as motivation for quality.
- CG.1.4 Know the limits of the profession and its competences, identifying, when necessary, an interdisciplinary treatment or referral to another professional.
- CG.2.1 Communicate effectively, both orally and in writing, with people, health professionals or industry and the media, knowing how to use information and communication technologies, especially those related to nutrition and lifestyle habits.
- CG.2.2 Know, critically assess and know how to use and apply information sources related to nutrition, food, lifestyles and health aspects.
- CG.2.3 Have the ability to prepare reports and fill in records related to the professional intervention of a Nutritionist/Dietitian.
- CG.8.1 Acquire basic training for research activity, being able to formulate hypotheses, collect and interpret information to solve problems following the scientific method and understanding the importance and limitations of scientific thinking in health and nutrition.

Specific competencies:

- CE.M1.1 Know the chemical, biochemical and biological foundations to be applied in human nutrition and dietetics

- CE.M1.2 Know the structure and function of the human body from the molecular level to the whole organism, in the different stages of life.
- CE.M1.3 Know the statistics applied to Health Sciences. Know the psychological bases and biopsychosocial factors that affect human behavior.
- CE.M1.4 Know the historical, anthropological and sociological evolution of food, nutrition and dietetics in the context of health and disease.
- CE.M1.5 Know the different educational methods of application in health sciences, as well as the communication techniques applicable in human food and nutrition.
- CE.M1.7 Acquire teamwork skills as a unit in which professionals and other personnel related to the diagnostic evaluation and treatment of dietetics and nutrition are structured in a uni-, multi-disciplinary and/or interdisciplinary way.
- CE.M1.9 Describe the anthropological foundations of human nutrition. Describe and argue the cultural and social inequalities that can affect eating habits.
- CE.M4.22 Be able to base the scientific principles that support the intervention of the dietician-nutritionist, subjecting their professional performance to scientific evidence.

OBJECTIVES

This course aims to provide students with the basic anatomical knowledge needed to develop as a health science professional. This course will also provide specific knowledge of the different organs and body systems with in the human body. These competences address theoretical anatomical knowledge and its application through practical sessions will guaranty a proper training in theory and practice. The knowledge acquired serves as a foundation that will enable the students to continue their learning through out their academic and continuing professional education in the field of human nutrition.

THEORETICAL PROGRAM

1- General concepts and importance of anatomy: parts, methods and sources. The human body and anatomical terminology
2- Anatomical position. Axis, planes and points of reference, general and local terminology
3- Musculoskeletal system I. General concepts of bones
4- Musculoskeletal system II. General concepts of joints and muscles
5- Cardiovascular system. General concepts. Study of the whole heart, and the vascular system
6- Respiratory system. General concepts. Study of the lungs and relations
7- Urinary system. General concepts and relations
8- Male and female genital apparatus. General concepts and relationships
9- Digestive system I. General concepts of the mouth and palate
10- Digestive system II. Oral cavity: gums, teeth, tongue and floor of the mouth.
11- Digestive system III. Masticatory muscles. Temporo-mandibular joint (TMJ)
12- Digestive system IV. Salivary glands and classification
13- Digestive system V. Pharynx. Anatomy and internal configuration
14- Digestive system VI. Esophagus: morphology and relations
15- Digestive system VII. Stomach: morphology and relations
16- Digestive system VIII. Pancreas and duodenum: morphology and relations
17- Digestive system IX. Liver: morphology and relations and bile duck
18- Digestive system X. Small intestine: jejunum, and ileum, morphology and relations
19- Digestive system XI. Large intestine: colon and rectum: morphology and relations

20- Digestive system XII. Spleen, lymphatic and portal venous systems. Morphology and relations
21- Nervous system I. General concepts, classification. Cranial cavity and Telencephalon
22- Nervous system II. Diencephalon and brainstem (mid brain).
23- Nervous system III. Hindbrain
24- Nervous system IV. Cranial nerves (pairs): classification and distribution
25- Nervous system V. Spinal cord: Anatomical constitution and spinal nerves
26- Nervous system VI. Morphological and functional organization of the nervous system: sensory and motor pathways. Taste pathways
27- Nervous system VII. Neurovegetative, sympathetic, parasympathetic and enteric nervous systems.
28- Endocrine system. Study and morphological and functional organization.
29- Surface anatomy. Body patterns and anthropometric concepts
30- Body composition: Body fat distribution and sex and age-related modifications

PRACTICAL WORK

P1- Anatomical terminology
P2- Musculoskeletal system
P3- Cardiovascular system
P4- Respiratory system
P5- Genital and urinary systems
P6- Digestive system I: Mouth
P7- Digestive system II: Pharynx, esophagus
P8- Digestive system III: Stomach, duodenum, and pancreas
P9- Digestive system IV: liver and bile ducts
P10- Digestive system V: small and large intestine, rectus and peritoneum
P11- Nervous system I: Brain
P12- Nervous system II: Brainstem and spinal cord
P13- Surface Anatomy. Kinanthropometry and body patterns determination. Somatotype. Body fat composition and determination

SEMINARS AND PRESENTATIONS.

S1- Embryonic development.
S2- Student Presentation and group discussion

ASSESSMENT OF LEARNING

Assessment criteria

Attitude in the classroom:
In the event of a voluntary or involuntary violation of the norms for the completion of a particular examination, your examination will not be marked. The student will have the opportunity to complete an oral examination to determine his or her knowledge of the material covered for that exam. If the infraction was voluntary this will be considered a serious ethical violation. This incident will be reported to the Inspection Services for their evaluation and any disciplinary measures they deem necessary.

Ordinary Examination:

1. The dates for the final exam will be posted in the teaching organization booklet of “Grado de Nutrición Humana y Dietética”. The Department will publish (with sufficient time) in the bulletin board and in the virtual campus the place and time for other (mid-term) examinations.

2. The Assessments will consist of theoretical and practical portions. These will represent 50-60% and 30% respectively of the final grade. The remaining 10-20% will be determined by continuous evaluation and demonstration of individual student effort
3. The theoretical portion will consist of exams featuring a combination of multiple-choice and/or short answers and/or image identification. The multiple-choice questions will have 5 choices with only one correct answer. There will be no negative points. The maximum score for each exam will be 10 points. For the multiple-choice only exams, a grade of 6 or higher will be needed in order to pass the exam and to be taken in consideration for the final grade.
4. The practical portion will consist of identification of the material addressed in practical sessions.
5. A pass grade on the theoretical exam is required in order to count the practical (30%) portion for the final grade.
6. The continuous evaluation and individual student effort will be added to the final grade once a pass grade is achieved in the theoretical AND practical examination.

Extraordinary Examination

If the ordinary examination is not passed an extraordinary examination will be offered at a later date to allow for additional study. This examination will be a theoretical and practical exam with similar characteristics as the ordinary examination. The theoretical examination will be worth 65% and the practical portion worth 35%. There will be no continuous evaluation for this examination.

BIBLIOGRAPHY

- **Netter's Anatomy Coloring Book Updated Edition 3rd Edition** Editorial Elsevier
- Biblioteca de Medicina: https://biblioteca.ucm.es/med
- Acceso al Clinical Key para estudiantes: https://www.clinicalkey.com/student
- "CROSSMAN. Neuroanatomía. Texto y atlas en color". Editorial Elsevier. Disponible on-line para la UCM en https://www.clinicalkey.com/student/content/toc/3-s2.0-C20140023313
- Carpenter, Neuroanatomía Fundamentos, Ed. Médica Panamericana.
- DTCM, Diccionario terminológico de ciencias médicas, 13a ed.
- Feneis, Heinz; Dauder, Wolfgang, Nomenclatura Anatómica Ilustrada, Editorial Elsevier.
- Kamina, Pierre, Anatomía Humana General, Editorial Médica Panamericana S.A.
- Moore, K., Embriología Básica, Editorial Interamericana-Mcgraw-Hill.
- *Moore y Agur, Compendio de Anatomía con orientación clínica, Editorial Masson S.A.
- "Lo esencial en aparato digestivo", 4.ª edición. Griffiths, Megan, MBChB (Hons). 2014 Elsevier España, S.L. https://www.clinicalkey.com/student/content/toc/3-s2.0-C20130194822
- Netter, F., Atlas de Anatomía Humana. Editorial Elsevier.
- PROMETHEUS. Texto y Atlas de Anatomía, Editorial Médica Panamericana S.A.
- SOBOTTA. Atlas de Anatomía, Editorial Elsevier. https://www.clinicalkey.com/student/content/toc/3-s2.0-C20170009229
- GRAY. Anatomía Básica, Editorial Elsevier, 2013.
- Langman, S., Embriología Médica, 4° ed., Editorial Médica Panamericana S.A.

- Lumley, Anatomía de Superficie. Editorial Churchill- Livingstone.
- Mackinnon y Morris, Oxford-Anatomía Funcional, Editorial Médica Panamericana S.A.
- **Some of these resources are available in English at the medical school library.**