SANT PAU Campus Salut Barcelona / Campus d'Aprenentatge Sant Pau	GRAU INFERMERIA – EUI SANT PAU	EUI-SANT PAU Centre adscrit a la UAB

Teaching Guide of the subject Year 2024 - 2025

STRUCTURE OF THE HUMAN BODY

Code: 106096
ECTS credits: 6

Titulation	*Type*	*Course*	*Semester*
2500891 Nursing	**FB**	**1**	**1**

Contact	***Use of languages***
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Prerequisites

There are no official prerequisites.

Contextualization and objectives

This subject is part of the Basic Sciences training module, Human Anatomy subject and is planned in the first semester of the Bachelor's Degree in Nursing.
Caring for healthy and sick people defines us as a profession. To provide quality care, it is necessary to have a deep knowledge of the human body.
The purpose of this course is to make the student aware of the different elements involved in the structure of the human body, both internally and microscopically in terms of cytology, genetics and histology, as well as at the external and macroscopic level, such as the most important anatomical characteristics of the systems of men and women throughout the different stages of the life cycle.

Learning objectives of the subject

1. To achieve knowledge of cell biology and genetics that allows us to understand the organization of the cell.
2. To achieve knowledge of anatomy, embryology and histology that allows understanding the structural organization of the human body in normal situations.
3. Identify the anatomical structures and relationships of the different organs of the human body in normal situations.

Competencies and learning outcomes

Competence	Learning Outcomes
SPECIFIC	
E01. To provide technical and professional health care appropriate to the health needs of the people being cared for, in accordance with the state of development of scientific knowledge at any given time and with the levels of quality and safety established in the applicable legal and deontological standards.	**E01.01** Identify the structure of the human body. **E01.02** Describe the main and differential characteristics and components that make up the structure of the human body.
GENERAL / BASIC	
G04. Act in the field of their own knowledge by evaluating inequalities based on sex/gender.	**G04.03.** To analyze differences by sex and gender inequalities in etiology, anatomy, physiology, pathologies, differential diagnosis, therapeutic options, pharmacological response, prognosis, and nursing care.
B01. Students must have demonstrated that they possess and understand knowledge in an area of study that is based on general secondary education, and is usually at a level that, although supported by advanced textbooks, also includes some aspects that involve knowledge from the forefront of their field of study.	

Content

MODULE 1. Basic anatomical structures

- GLOBAL STRUCTURE OF THE HUMAN BODY
  Introduction to anatomy and apply terminology used in anatomy.
  Describe the levels of organization of the human body.
  Cite the interactions between anatomy and physiology.
  Describe the parts of the human body and anatomical positions.
  Describe the planes and axes of the human body.

- CEL BIOLOGY. LULAR
  Identify cells: types and functions.
  Know the parts of the cell: membranes. Cytoplasm. Nucleus.
  Identify cellular activities: metabolism and transfer across membranes.
  Know the cell cycle.
  Describe the mechanisms of cell division: Mitosi, Meiosis.
  Identify cell death: Necrosis and Apoptosis.

- HUMAN GENETICS
  Introduction to genetics.
  Knowing the chemical bases of molecular genetics: Disposition. DNA Replication and Translation and RNA Synthesis.
  Identify the genetic code: Translation of the message. Protein synthesis.
  Know the regulation of genes.
  Describe the molecular analysis of the human genome.
  Identify chromosomes: Karyotype.
  Describe the objectives of meiosis and its phases: Recombination.
  Describe oogenesis and spermatogenesis.
  Remember the general concepts of heredity applied to the human species.
  Describe the chances of occurrence and genetic risk of autosomal inheritance: both dominant and recessive.
  Describe the chances of occurrence and genetic risk of sex-linked inheritance: X-linked. Y-linked.
  Genetic counseling.
  Identify mutations.
  Describe chromosomal abnormalities in humans: numerical and structural.
  Correlate chromosomal abnormalities and carcinogenesis.

- HISTOLOGY
  To know the embryonic origins of the tissues. Classify the tissues.
  And to know the epithelial tissue and glands. Classify the glands.
  And to know Connective Tissue: lax, supportive (cartilage and bone) and hematopoietic. Name and know Muscle tissue: smooth and striated.
  Name and know Nervous tissue.
  To explore and learn about the basic tissues of the skin (dermis and epidermis) and the appendages of the skin.

MODULE 2. Anatomical structures of the systems that make up the human body.

- MUSCULOSKELETAL SYSTEM

  Know the structure of the musculoskeletal system.

  Name and know the structure and classification of the different types of bones. Identify and name the anatomical components: bones, muscles and joints. Describe the microscopic structure and histology of bones and joints.

  Classify joints anatomically and functionally. Classify the muscles.

  Describe the histology of striated muscle.

  Identify and name the head: bones, muscles, and joints of the skull and face. Identify and name the spine: bones, muscles, and joints of the spine. Identify and name the chest: bones, muscles, and joints.

  Identify and name the upper extremity: bones, muscles, and joints of the shoulder girdle, elbow, wrist, and hand.

  Identify and name the lower extremity: bones, muscles, and joints of the pelvic girdle, knee, ankle, and foot.

- NERVOUS SYSTEM

  Identify the components of the nervous
  tissue. Classify neurons: shapes and types.

  Classify the nervous system.

  Identify the brain: location and relationships.

  Identify and name the cranial meninges, the spaces they delimit, and the circulation of cerebrospinal fluid.

  Identify and name the parts of the brain: situation and
  relationships. Identify and name the parts of the cerebellum:
  situation and relationships.

  Identify and name the parts of the diencephalon: thalamus, hypothalamus. Situation and
  relationships. Identify and name the parts of the brainstem: midbrain, pons, medulla
  oblongata. Describe the location and trajectory of the cranial nerves.

  Identify and name the parts of the spinal metal: location.

  Identify and describe the path of the spinal nerves and the plexae they form.

  Describe the organization of the autonomic nervous system: sympathetic and
  parasympathetic. Situation and relationships.

  Describe the types of synapses between preganglionic and postganglionic fibers.

  Describe the sense of vision and identify its components: eyeball, lenses, extrinsic and intrinsic ocular musculature, accessory elements of protection.

  Describe the sense of hearing and balance: outer, middle, and inner ear.

  Describe the sense of taste: localization of taste.

  Describe the sense of smell: location of smell.

- ENDOCRI SYSTEM

  Identify the location of the endocrine system.

  Describe the endocrine glands: Location, relationships and irrigation.

  Describe the pituitary gland: situation and relationships. Adenohypophysis. Hypothalamus-pituitary axis. Neurohypophysis. Identify the thyroid gland: situation and relationships. Identify the parathyroid gland: situation and relationships. Identify the adrenal gland: situation, relationship and births.

  Identifying the pancreas as an endocrine gland: situation and relationship.

- URINARY SYSTEM

  Know the general organization of the urinary system.

  Identify and locate the different parts of the urinary system and their relationships: kidney, ureter, urinary bladder and urethra.

  Relate the urinary system to the genital and digestive systems.

  Describe the differences between the female and male urinary system. Describe the histological structure of the urinary system.

  Identify the components of the nephron: glomerulus, Bowmann's capsule, convoluted tubules, loop of Henle, and collecting tubules.

  Describe the vascularization of the nephron.

- DIGESTIVE SYSTEM

  Know the organization of the digestive system.

  Identify and locate each of the parts of the digestive tract: mouth, pharynx, esophagus, stomach, small intestine, large intestine, sigma and rectum.

  Identify and locate the exocrine pancreas, liver, and bladder.

  Relate the different parts of the digestive system to each other and to the respiratory system. Know the histology of the digestive system.

- RESPIRATORY SYSTEM

  Know the organization of the respiratory system.

  Know the microscopic and histological structure of the respiratory system.

  Identify and locate the different structures of the upper respiratory system: nose, pharynx, larynx and trachea.

  Identify and locate the different parts of the intra-thoracic respiratory system: bronchi, bronchioles, alveoli and pleura.

  Relate the different parts of the respiratory system to the digestive and cardiovascular systems. Know the irrigation and innervation of the lungs.

  Describe the muscles involved in respiratory mechanics.

- CARDIOCIRCULATORY SYSTEM

Know the organization of the cardiocirculatory system.

Describe the histology of the three layers of the heart: endocardium, myocardium, and pericardium. Identify the anatomy of the heart: chambers and valves, conduction tissue, and coronary arteries. Describe the two circuits of blood circulation: Systemic and Pulmonary.

Identify the main arteries and veins of the body.

Know the micro-circulation. Structure of capillaries.

Describe the anatomy of the fetal circulation.

- DEFENSE SYSTEMS

Know the composition of the blood: plasma, hemayas, platelets and leukocytes. Describe the structure of erythrocytes and their life cycle.

Describe blood groups and Rh system.

Describe platelets.

Describe the white blood cells or leukocytes.

Describe hematopoietic tissues: myeloid, lymphatic. Explain the concept of immunity.

Identify the different types of immunity: natural immunity. Acquired immunity: humoral and cellular.

Differentiate the types of lymphocytes to acquired immunity: T lymphocytes and B lymphocytes.

Know and classify antigens and antibodies.

Differentiate vaccination and passive immunity.

- REPRODUCTIVE SYSTEM

Know the general organization of the reproductive system.

Identify and locate the structures of the female reproductive system: ovary, fallopian tubes, uterus, vagina, external genitalia.

Relate the genital structures to the organs of the peritoneal cavity and pelvis. Know the structure and relationships of the mammary gland.

Identify and locate the structures of the male reproductive system: testicle, epididymis, vas deferens, seminal vesicles, prostate, penis and scrotum.

- EMBRYOLOGY

Know the development of the embryo and the fetus.

To know the phenomena of fertilization and segmentation.

Mention the phenomena that appear during the period of embryogenesis. Gastrulation. Embryonic disc. And the appearance of the trilaminar disc. Appearance of ectoblast, mesoblast and endoblast.

Explain the concept of organogenesis. Explain the changes during fetogenesis. Describe the umbilical cord and placenta.

Methodology

The methodological approach of the subject is based on considering that the protagonist in the teaching and learning process is the student. Students must be active and autonomous throughout the process and teachers support them, providing the information and resources necessary for learning to take place.

Directed activity:
The subject is face-to-face with non-compulsory attendance. The theoretical class (TE) is used as an expository, participative and group teaching methodology, developing active listening and exposition. Classroom practices (PAUL) with discussion and carrying out group or individual exercises and activities.

Supervised activity:
Different articles and documents are worked on. The classes are a support for the student's autonomous study of the recommended bibliography. Tutorials can be face-to-face or electronic. Depending on the time needs in the development of the subject, the tutoring classes will be integrated into TE and PAUL classes. Any doubts that students may have in relation to the subject may be resolved at any time, preferably in any type of class, or by e-mail to the teacher responsible for the subject that generates the doubt, if face-to-face access is not possible.

Training activities

Activity	Hours	ECTS	Learning Outcomes
Types: Directed . Theoretical classes (TE) . Classroom Internship (PAUL)	52,50	2,10	*E01.01, E01.02, B01, G04.03*
Supervised Types . Guardianship	1	0,02	*E01.01, E01.02,*
Type: Self-employed: . Bibliographic consultations and documents.	82,50	3,30	*E01.01, E01.02, B01, G04.03*

The teaching staff will allocate approximately 15 minutes once the subject is finished to allow them to students can answer the assessment surveys on the teaching performance and the subject.

Evaluation

The student has only one call per academic year to pass the subject.

Academic progression and completion of the subject is assessed through a continuous and formative assessment, through two multiple-choice tests of 40 questions and a written concept test that will be carried out at the same time as the second continuous assessment. Each multiple-choice test will have a weight of 47.5%, while the proof of concept will have a weight of 5%.

In multiple-choice tests, the negative answers are according to the following formula:
NOTE = Hits - (errors/n-1), where *n* is the number of answer options. Its value will be between 0 and 10.

The proof of concept will be valued from 0 to 10.

The grade of the subject is given by the weighted average of the marks obtained in the two multiple-choice tests (from a 5 in each of them) and the concept test.

Requirements to be able to make the weighted average:

1.- A minimum grade of 5 is required in each of the two multiple-choice assessments. The proof of concept score can be less than 5.

2.- The student must have taken a minimum of 66.6% of the total weight of the evaluation tests (this requires having taken the two multiple-choice evaluations at least).

The results of the evaluation tests will be retroacted through the classroom and tutorials where appropriate.

Qualification

- 0 to 4.9: Fail
- 5.0 to 6.9: Pass
- 7.0 to 8.9: Remarkable
- 9.0 to 10: Excellent (in the event that the student has obtained a grade equal to or higher than 9, he/she may opt for,
  criterion of the professor, to an honors).

Unique assessment

1. The date of the unique test will coincide with the date of the last continuous assessment test that appears in the daily schedule and in the calendar of training and evaluation activities.

2. The unique assessment will consist of:
   - Test 1 which will consist of a **multiple-choice test** and weights **47.5%**
   - Test 2 which will consist of a **multiple-choice test** and weights **47.5%**
   - Test 3 which will consist of a **Proof of Concepts** that will consist of and weights 5 **%**

Recovery activity

1. A unique date is determined for the remedial activity for all students, whether or not they are eligible for a unique evaluation
2. A remedial activity is proposed for those students who have been previously evaluated for the set of activities whose weight is equivalent to a minimum of 2/3 of the total grade of the subject, and have obtained a final grade higher than 3.5 and less than 5 out of 10.
3. This test will consist of an evaluative activity depending on the part not passed. In other words, if the non-pass multiple-choice test is the first, it must be evaluated only for the same. In the event that it is the second, only the second must be evaluated. In the event that both have been suspended, both must be evaluated. There will be no proof of retake of the proof of concept. In the event that the student passes the retake test corresponding to the failed part (grade of 5 or higher), their grade for the test will be recorded as a 5. This grade will be the one that will average the other test (if it is approved) and the proof of concept, in order to obtain the final grade of the subject.
4. The retake tests will be determined by the teaching staff, usually multiple-choice tests, which will include all the contents of the failed part.
5. Once the subject has been passed, it cannot be subject to a new evaluation.

Not assessable

It is considered non-assessable when the student has not participated in any of the activities of the continuous assessment.

Exam Review

Once the final grade has been published, the student can request to carry out the review of the test within the established period. Requests for review outside of this period are not accepted.

Procedure in case of copying/plagiarism

1. Copying **or plagiarism** in any type of assessment activity is a crime, and will be penalised with a 0 as the grade of the subject, losing the possibility of recovering it, whether it is an individual or group work (in this case, all members of the group will have a 0).

2. If during the completion of an individual project in class, the teacher considers that a student is trying to copy or is discovered some type of document or device not authorised by the teaching staff, it will be graded with a 0, with no retake option, and therefore, the subject will be suspended.

3. A work, activity or exam is considered to be "copied" when it reproduces all or a significant part of the work of oneself or another classmate.

4. A work or activity will be considered "plagiarized" when a part of a text by an author is presented as one's own without citing the sources, regardless of whether the original sources are on paper or in digital format.

Aspects of assessment related to values and attitudes

1. The teacher may reduce the grade of the subject between 1 and 2 points out of 10 for any student who repeatedly does not respect the indications on the rules of behavior in class and/or disturbs the normal functioning of the class.
2. "No disrespect for colleagues or teachers will be tolerated. Homophobic, sexist or racist attitudes will not be tolerated either. Any student in whom any of the attitudes described above are detected will be classified as failing the subject."

Other considerations

1. All the evaluation tests will be published in the daily program and in the calendar of the training and evaluation activities.

2. The date of the unique test will coincide with the date of the last continuous assessment test.

3. Students who repeat the subject may request at the beginning of the academic year to take only a final synthesis assessment (Article 117, page 46 of the Academic Regulations of the Universitat Autònoma de Barcelona (Approved by agreement of the Governing Council of 7 July 2022, and amended by agreement of the Governing Council of 1 February 2023).

   Students in the second or higher enrolment who have taken all the assessment tests the previous year may choose to take assessment with a single synthesis assessment activity. This activity will consist of an exam at the end of the subject coinciding with the written exam of the subject. Students in the second or higher enrolment who wish to opt for the synthesis exam must notify the teaching staff responsible for the subject in writing two weeks before the published date.

Evaluation activities

Activity	Weight	Hours	ECTS	Learning Outcomes
Multiple-choice test 1 Multiple-choice test 2 Proof of concepts	47,5% 47,5% 5%	7,50	0,20	*E01.01, E01.02, B01, G04.03*

Bibliography

STRUCTURE AND FUNCTION OF THE HUMAN BODY

Author: Escudero B, Sánchez J.M, Borrás J, Serrat J.

Edition: 2nd Edition. Mac GRAW Hill Interamericana de Espeña 2002.

ISBN: 9788448604684

INTRODUCTION TO THE HUMAN BODY

Author: Tortora. Derrickson.
Edition: Editorial Médica Panamericana, 2008.
ISBN: 9789687988993

Teaching platform

- Moodle