

**Function of the Human Body II**

Code: 106098  
ECTS Credits: 9

Degree	Type	Year	Semester
2500891 Nursing	FB	1	A

## Contact

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## Teaching groups languages

You can check it through this [link](#). To consult the language you will need to enter the CODE of the subject. Please note that this information is provisional until 30 November 2023.

## Teachers

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## Prerequisites

It is convenient that the student has previously acquired basic knowledge and competences about the structure and organization of the human body, as well as the function of some of the body systems, particularly in the subject Image Diagnosis and Function of the Human Body I.

## Objectives and Contextualisation

The subject Function of the Human Body II is annual and is given during the first year of the Nursing Degree. Dur

The general training objectives of the subject are:

- To learn the basic physiology of the excretory, digestive, endocrine-reproductive and nervous systems of the

- To acquire a complete and integrated view of the relationships of the different systems of the organism.
- To integrate the physiology knowledge with concepts learned in other basic subjects, that deal with the struc
- To train the student to apply the physiological knowledge in deducting the consequences of the diseases.
- To acquire practical skills for performing the most frequent functional tests in the biomedical field.
- To acquire attitudes aimed at the promotion health and the prevention of disease, oriented to health medicir

## Competences

- Make changes to methods and processes in the area of knowledge in order to provide innovative responses to society's needs and demands.
- Offer technical and professional health care and that this adequate for the health needs of the person being attended, in accordance with the current state of scientific knowledge at any time and levels of quality and safety established under the applicable legal and deontological rules.
- Students must have and understand knowledge of an area of study built on the basis of general secondary education, and while it relies on some advanced textbooks it also includes some aspects coming from the forefront of its field of study.
- Take sex- or gender-based inequalities into consideration when operating within one's own area of knowledge.

## Learning Outcomes

1. Acquire and use the necessary instruments for developing a critical and reflective attitude.
2. Analyse differences by sex and gender inequality in ethiology, anatomy, physiology. Pathologies, differential diagnosis, therapeutic options, pharmacological response, prognosis and nursing care.
3. Demonstrate being able to carry out basic life support manoeuvres.
4. Enumerate the different types of microorganisms and parasites of interest to health.
5. Identify advanced life support manoeuvres.
6. Identify illnesses spread by germs and their relations to other socio-environmental factors.
7. Identify physiopathological processes and their manifestations, as well as the risk factors that determine states of health and illness during the different stages of the life cycle.
8. Identify the physiological functioning of the human body and the homeostatic mechanisms that regulate it.
9. Identify the tests and explorations using imaging diagnosis used in different physiopathological changes.
10. Recognise situations of risk to life.
11. Students must have and understand knowledge of an area of study built on the basis of general secondary education, and while it relies on some advanced textbooks it also includes some aspects coming from the forefront of its field of study.

## Content

### Blood and hematopoietic organs

- Composition and functions of the blood

- Blood plasma
- Red blood cells
- Leukocytes
- Lymphocytes and immunity
- Blood groups
- Haemostasis

### Respiratory system

- Introduction to respiratory physiology
- Ventilation mechanics
- Pulmonary ventilation
- Pulmonary circulation
- Gas exchange in lungs
- Blood transport of gases
- Regulation of breathing

### Cardiovascular system

- Introduction to the cardio-vascular system
- Myocardium physiology
- Electrical activity of the heart
- Cardiac cycle
- Regulation of the cardiac function
- Normal hemodynamics of venous system
- Normal hemodynamics of the arterial system
- Microcirculation. Capillary and lymphatic system
- Mechanisms of blood flow control
- Regulation of blood pressure
- Circulation in special regions

### Excretory system and body fluids

- Volume and composition of body fluids
- General functions of the kidney

- Function and hemodynamics of the glomerulus
- Assessment of the renal function
- Mechanisms of urine concentration
- Regulation of the volume and the osmolarity of body fluids
- Renal regulation of the acid-base equilibrium
- Physiology of the urinary pathways. Micturition

### Digestive system

- Introduction to the digestive physiology
- Motility of the digestive tube
- Digestive secretions
- Digestion and absorption of nutrients

### Endocrine system

- Introduction to endocrinology
- Hypothalamus and hypophysis
- Growth hormone system
- Prolactin system
- Hypothalamic-hypophysial-thyroidal axis
- Hypothalamic-hypophysial-suprarenal cortex axis
- Hypothalamic-hypophysial-gonadal axes
- Endocrine pancreas

- Calcium metabolism regulatory hormones
- Adrenal cortex and medulla

### Reproductive system

- Female reproductive system
- Male reproductive system
- Fecundation and gestation
- Childbirth and breastfeeding

### Nervous system and sensory organs

- Introduction to neurophysiology
- Segmentary control of motion and posture
- Suprasegmentary control of motion and posture
- Nervous regulation of visceral functions
- Introduction to sensory physiology
- Somatic and visceral sensibility
- Gustative and olfactory sensibility
- Auditory and vestibular sensibility
- Visual sensibility
- Electrical cerebral activity. Awakeness and sleep
- Cognitive functions of the nervous system

### **Methodology**

### Theory classes:

Systematic explanation of the subject topics, giving relevance to the most important concepts. The student acquires the basic scientific knowledge of the subject in theory classes, which will be complemented by self-study of the topics of the subject program.

### Laboratory practices:

Practical sessions for the observation and performance of procedures, the practical learning of physiological techniques and their application. Group work and active self-learning are promoted.

### Case-based work:

Work on cases or problems of relevance for learning the subject. The knowledge acquired in theory classes, practices and personal study is applied to the resolution of practical cases presented using the moodle application.

### Tutorial teaching:

Availability of tutorials for helping in the autonomous study of physiological concepts and application for the resolution of cases throughout the course.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

## **Activities**

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Laboratory practices (PLAB)	17	0.68	
Theory	50	2	
Type: Supervised			
Problem-based cases (PAUL)	14	0.56	
Tutorials	2	0.08	
Type: Autonomous			
Personal study	108.5	4.34	
Preparation of works	20.5	0.82	

## **Assessment**

The evaluation of the subject will be based on the theoretical and practical syllabus contained in the Program.

The competences of the subject are evaluated by:

Continuous evaluation: throughout the course and consisting in:

o Partial exams: Written evaluations by means of objective tests. These exams evaluate the understanding and

- Block 1: corresponds to blood physiology, and the respiratory and cardiovascular systems. It represents the

- Block 2: corresponds to the excretory and digestive systems. It represents the 25% of the final grade of the

- Block 2: corresponds to the endocrine and nervous systems. It represents the 40% of the final grade of the

In order to pass the subject, it is necessary to obtain a minimum of 5 in each of these three blocks. Once this is

- Questionnaires with objective tests delivered during laboratory practices and case seminars, that represent the 25%

In order to pass the subject, it is necessary to obtain a minimum of 5 of the final mean of the laboratory practices

To pass the subject the student must obtain a minimum of 5.0 in the final grade (composed of 75% from partial exams

Recovery exam:

Students who have not passed the course through continuous evaluation throughout the course, should perform

According to the general regulations, to participate in the final recovery exam the students must have been previously

As in the continuous evaluation, the final theory exam grade will represent 75% of the final grade of the subject and

From the first enrollment, students who have not passed the course through continuous evaluation and who explicitly

The student who does not attend any of the scheduled exam sessions will be considered as "non-evaluable".

For each one of the exams of the subject a review period will be established, which will be duly announced.

Single evaluation

Students can benefit from the single evaluation system, according to the regulations of the Faculty. The single evaluation will be based on the same content of the subject syllabus, the acquisition of the same competences, and will have the same level of demand as the continuous evaluation.

The single evaluation will consist of tests carried out on the same date for each one of the systems or blocks that make up the subject.

In the evaluation of each system or block, an exam consisting of multiple-choice questions and / or restricted written questions will be carried out to evaluate the theoretical knowledge of the subject and the concepts related to laboratory practices and case study, with an approximate weighting of 75% and 25% of the overall grade of each system.

To pass each system it is required to obtain a minimum of 5.0 in the exam.

To pass the subject it will be necessary to have passed all the systems or blocks with a minimum of 5.0. In that case, the final grade will be the weighted average (by the extension of the system) of the marks obtained in each of the systems. In case of not passing any of the systems, the maximum score obtained will be 4.8. It will be considered as "not evaluable" the student who does not take the scheduled global and recovery exams.

Recovery exam. The same recovery system shall be applied as in the case of continuous evaluation.

The review of qualifications will follow the same procedure as for continuous evaluation.

## Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Practice: Written evaluation through objective tests: multiple-choice questions / restricted-choice essay tests	75%	5	0.2	1, 2, 3, 4, 8, 7, 6, 5, 9, 11, 10
Theory: Written evaluation through objective tests: multiple-choice questions / restricted-choice essay tests	25%	8	0.32	1, 2, 3, 4, 8, 7, 6, 5, 9, 11, 10

## Bibliography

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- Tresguerres AF, Villanúa MA, López-Calderón A. Anatomía y Fisiología del Cuerpo Humano. 1ª ed. Madrid: Mc Graw Hill-Interamericana; 2009.

## **Software**

There is no need of specific programs for the development of this subject.