



## Information about the subject

**Degree:** Bachelor of Science Degree in Occupational Therapy

**Faculty:** Faculty of Psychology

**Code:** 1121104 **Name:** Structure and function of the human body II

**Credits:** 6,00 **ECTS Year:** 1 **Semester:** 2

**Module:** BASIC TRAINING MODULE

**Subject Matter:** Physiology **Type:** Basic Formation

**Field of knowledge:** Health Sciences

**Department:** -

**Type of learning:** Classroom-based learning

**Languages in which it is taught:** Spanish

**Lecturer/-s:**

1121

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## Module organization

### BASIC TRAINING MODULE

Subject Matter	ECTS	Subject	ECTS	Year/semester
Human Anatomy	6,00	Structure and function of the human body I	6,00	1/1
Physiology	12,00	Kinesiology	6,00	1/2
		Structure and function of the human body II	6,00	1/2
Psychology	24,00	Basic Psychological Processes	6,00	1/2
		Developmental Psychology I	6,00	2/1
		Developmental Psychology II	6,00	2/2
		Psychology of the Personality	6,00	1/1
Anthropology	6,00	Anthropology	6,00	1/1
Social Moral-Deontology	6,00	Social Morality - Deontology	6,00	2/1
Science, Reason and Faith	6,00	Science, Reason and Faith	6,00	1/2

### Recommended knowledge

Knowledge of basic notions about cell biology and human anatomy is recommended.



## Learning outcomes

At the end of the course, the student must be able to prove that he/she has acquired the following learning outcomes:

- R1 To know the morphological bases of the human body from a functional perspective.
- R2 To know and properly use the subject-specific terminology.
- R3 To use, interpret and critically assess the scientific documents on which Human Anatomy is based.
- R4 To acquire the ability to synthesize and explain basic concepts.



## Competencies

Depending on the learning outcomes, the competencies to which the subject contributes are (please score from 1 to 4, being 4 the highest score):

GENERAL		Weighting			
		1	2	3	4
CG1	To recognise the key elements of the profession, including ethical principles, legal responsibilities, the focus on the individual and population respecting their autonomy, and the oath of confidentiality.		X		
CG4	To recognise one's own limitations and the need to maintain and keep up to date one's professional competence, focusing specially on the importance of autonomous learning of knowledge and techniques and the desire for quality.		X		
CG5	To know, value critically and use the sources of information in order to obtain, organise, interpret and communicate the scientific, sanitary, socio-sanitary and information, preserving the confidentiality of the data.			X	
CG6	To understand the conceptual foundations of the occupational nature of the human being and the carrying out of his occupations throughout the cycle of life.		X		
CG7	To understand and recognise the interrelationship between the concepts of wellbeing, health, significant occupation, dignity and participation.			X	
CG8	To understand and recognise the importance of contextual factors as determiners of occupational dysfunction and promote the right of individual/populations to satisfy their occupational needs.				X
CG18	To acquire and develop skills and practical experience in a socio-sanitary and community context		X		
CG22	To establish an assertive interpersonal communication with all the interlocutors that is relevant during the Occupational Therapy process.			X	
SPECIFIC		Weighting			
		1	2	3	4



CE25 To know and understand the structure and functioning of the human body so students can evaluate, synthesise and apply Occupational Therapy treatments.

X

CE26 To know and understand the physio-pathological process in every moment of the life cycle, from infancy to old age, identifying the problems and preventive and clinical aspects of the person, in health as well as in illness.

X

## Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
	50,00%	Written tests: Summative and final theoretical-practical test (open questions, objective test questions, truncated test, etc.) Preparation of field work memoranda, practical case solutions, single cases.
	30,00%	Presentation of group and individual works.
	20,00%	Individual monitoring of attendance at face-to-face sessions and active participation in theoretical and practical classes, seminars and tutorials.

### Observations

The student has different complementary evaluation systems:

1.- Progressive evaluation: the student must carry out all the activities proposed by the teacher during the course (attendance, participation in class and seminars, performance and presentation of works). Works delivered late will not be considered.

2.- Final evaluation: the student must carry a final test. The official dates of examinations will be set by the Dean's Team of the Faculty attending to the periods established in the academic calendar. Modifications of the official dates will just be done according to the University regulations.

The students must achieve 5 of 10 in order to pass the subject. Moreover, a minimum score of 4,5 must be achieved in each one of the evaluations.

A minimum of 75% of the attendance is required for it to compute in the grade of the subject.

Attendance control will be carried out through the VIRTUAL CAMPUS. Failure to attend must be justified by an official document scanned and sent to the professor.



In accordance with the regulations governing the assessment and grading of subjects in force at UCV, the distinction of "Matrícula de Honor" (Honours with Distinction) may be awarded to students who have achieved a grade of 9.0 or higher. The number of "Matrículas de Honor" (Honours with Distinction) may not exceed five percent of the students enrolled in the group for the corresponding academic year, unless the number of enrolled students is fewer than 20, in which case a single "Matrícula de Honor" (Honours with Distinction) may be awarded.

Exceptionally, these distinctions may be assigned globally across different groups of the same subject. Nevertheless, the total number of distinctions awarded will be the same as if they were assigned by group, but they may be distributed among all students based on a common criterion, regardless of the group to which they belong. The criteria for awarding "Matrícula de Honor" (Honours with Distinction) will be determined according to the guidelines stipulated by the professor responsible for the course, as detailed in the "Observations" section of the evaluation system in the course guide.

## Learning activities

The following methodologies will be used so that the students can achieve the learning outcomes of the subject:

- M1 ON-CAMPUS CLASS
- M2 PRACTICAL CLASSES
- M3 SEMINAR
- M4 GROUP PRESENTATION OF PAPERS
- M5 OFFICE ASSISTANCE
- M6 ASSESSMENT
- M7 GROUP WORK
- M8 INDEPENDENT WORK



## IN-CLASS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
ON-CAMPUS CLASS: Teacher presentation of contents, analysis of competences, explanation and in-class display of skills, abilities and knowledge. M1	R1, R2, R3, R4	29,00	1,16
PRACTICAL CLASSES: Group work sessions supervised by the professor. Case studies, diagnostic tests, problems, field work, computer room, visits, data search, libraries, on-line, Internet, etc. Meaningful construction of knowledge through interaction and student activity. M2	R1, R2, R3, R4	10,00	0,40
SEMINAR: Supervised monographic sessions with shared participation M3	R1, R2, R3, R4	7,50	0,30
GROUP PRESENTATION OF PAPERS: Application of multidisciplinary knowledge M4	R1, R2, R3, R4	7,50	0,30
OFFICE ASSISTANCE: Personalized and small group attention. Period of instruction and /or orientation carried out by a tutor to review and discuss materials and topics presented in classes, seminars, eadings, papers, etc. M5	R1, R2, R3, R4	3,00	0,12
ASSESSMENT: Set of oral and/or written tests used in initial, formative or additive assessment of the student M6	R1, R2, R3, R4	3,00	0,12
<b>TOTAL</b>		<b>60,00</b>	<b>2,40</b>



## LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
<p>GROUP WORK: Group preparation of readings, essays, problem solving, seminars, papers, reports, etc. to be presented or submitted in theoretical lectures, practical and/or small-group tutoring sessions. Work done on the university e-learning platform ( <a href="http://www.plataforma.ucv.es">www.plataforma.ucv.es</a> )</p> <p>M7</p>	R1, R2, R3, R4	40,00	1,60
<p>INDEPENDENT WORK: Student study: Group Individual preparation of readings, essays, problem solving, seminars, papers, reports, etc. to be presented or submitted in theoretical lectures, practical and/or small-group tutoring sessions. Work done on the university e-learning platform ( <a href="http://www.plataforma.ucv.es">www.plataforma.ucv.es</a> )</p> <p>M8</p>	R1, R2, R3, R4	50,00	2,00
<b>TOTAL</b>		<b>90,00</b>	<b>3,60</b>





## Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

Content block	Contents
Introduction to physiology	<p><b>Chapter 1- Introduction to physiological sciences</b></p> <ul style="list-style-type: none"><li>- The cell, its organelles and its environment</li><li>- Body fluids</li><li>- Homeostasis</li><li>- Feedback systems</li></ul> <p><b>Chapter 2.- Cell physiology</b></p> <ul style="list-style-type: none"><li>- The cell membrane</li><li>- Transport across the membrane</li></ul>
Physiology of the nervous system	<p><b>Chapter 3- Physiology of the nervous system I: neurons and nervous tissue</b></p> <ul style="list-style-type: none"><li>- Membrane potentials, graded potentials and action potentials</li><li>- Nerve synapse</li><li>- Neurotransmitters</li></ul> <p><b>Chapter 4- Physiology of the nervous system II: sensory and motor function</b></p> <ul style="list-style-type: none"><li>- Sensory function: generalities and somatic sensory function</li><li>- Motor function: Somatic Nervous System, Autonomic Nervous System and Enteric Nervous System</li></ul> <p><b>Chapter 5- Physiology of the nervous system III: special organs</b></p> <ul style="list-style-type: none"><li>- Smell</li><li>- Taste</li><li>- View</li><li>- Ear</li><li>- Balance</li></ul>



## Physiology of the muscles

### **Chapter 6- Physiology of the muscles**

- Types of muscle tissue
- Excitation-contraction of skeletal muscle
- Excitation-contraction of smooth muscle
- Excitation-contraction of the cardiac muscle

## Cardiovascular physiology

### **Chapter 6- Cardiac physiology**

- The heart
- Self-excitabile cells
- Electrocardiogram
- Cardiac cycle
- Cardiac output

### **Chapter 7- Vascular physiology**

- Blood vessels
- Capillary exchange
- Hemodynamics

## Physiology of the blood and the immune system

### **Chapter 8- Blood Physiology**

- Composition of the blood
- Hematopoiesis
- Physiology of the erythrocyte: gas transport, blood groups and blood types
- Physiology of platelets: hemostasis and fibrinolysis

### **Chapter 9: Physiology of the immune system**

- Lymphatic system
- Innate immunity
- Acquired immunity



Physiology of respiration, nutrition and excretion

### **Chapter 9: Physiology of the respiratory system**

- Pulmonary ventilation
- Spirometry
- Gas exchange and transport
- Breath control

### **Chapter 10: Physiology of the digestive system**

- Components of the digestive system and their functions
- Phases of digestion
- Defecation

### **Chapter 11: Physiology of the urinary system**

- Renal function
- Acid-base balance
- Urination

Physiology of the endocrine and reproductive system

### **Chapter 12- Physiology of the endocrine and reproductive system**

- Physiology of the hypothalamic-pituitary axis
- Thyroid hormones
- Endocrine pancreas
- Kidney glands
- Male reproductive system
- Female reproductive system



## Temporary organization of learning:

Block of content	Number of sessions	Hours
Introduction to physiology	2,00	4,00
Physiology of the nervous system	8,00	16,00
Physiology of the muscles	4,00	8,00
Cardiovascular physiology	4,00	8,00
Physiology of the blood and the immune system	4,00	8,00
Physiology of respiration, nutrition and excretion	4,00	8,00
Physiology of the endocrine and reproductive system	4,00	8,00

## References

- Derrickson. Fisiología Humana. Ed. Elsevier España; 2018
- Hall, J.E. Tratado de Fisiología médica. 13ª edición. Ed. Elsevier España; 2016.
- Tortora, G.J., Derrickson, B. Principios de Anatomía y Fisiología. 13º edición. Ed. Panamericana;2013.
- Stanfield, C.L. Principios de fisiología humana. 4ª edición. Ed. Pearson; 2011. ISBN 9788478291304.
- Stuart Ira Fox. Fisiología humana. 13ª edición. Ed. McGraw-Hill; 2015.
- Flórez, J.FARMACOLOGÍA HUMANA. 6ª edición. Elsevier-Masson; 2013
- TRATADOS BÁSICOS CLÁSICOS DE FISOLOGÍA HUMANA (GANNONG, GUYTON, etc.)