



Information about the subject

Degree: Bachelor of Science Degree in Dentistry

Faculty: Faculty of Medicine and Health Sciences

Code: 480103 **Name:** Human and Oral Physiology

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

Module: Module 1: Relevant Basic Biomedical Sciences in Dentistry

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

Field of knowledge: Ciencias de la Salud

Department: Anatomy and Physiology

Type of learning: Classroom-based learning

Languages in which it is taught: English, Spanish

Lecturer/-s:

481A Ignacio Ventura González (**Responsible Lecturer**) ignacio.ventura@ucv.es

481GIQ Clara Gomis Coloma (**English Responsible Lecturer**) clara.gomis@ucv.es



Module organization

Module 1: Relevant Basic Biomedical Sciences in Dentistry

Subject Matter	ECTS	Subject	ECTS	Year/semester
HUMAN ANATOMY	12,00	Embryology and General Anatomy I	6,00	1/1
		General Anatomy II and Oral Anatomy	6,00	1/2
Biology	18,00	Biology	6,00	1/1
		Histology	6,00	1/2
		Microbiology	6,00	1/2
Physiology	6,00	Human and Oral Physiology	6,00	1/2
Biochemistry	6,00	Biochemistry	6,00	1/1
MODERN LANGUAGE	12,00	Modern Language: English	6,00	2/2
		Modern language: Spanish	6,00	2/2



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 Knows the main disciplines that make up the physiological sciences, their foundations and areas of work.
- R2 Distinguishes the different levels of organization of living beings.
- R3 The student is able to relate the basic functioning of the different systems and apparatus.
- R4 Applies the general knowledge of Physiology.
- R5 Looks for bibliographic information from different sources and knows how to analyze it with a critical and constructive spirit.
- R6 The student is able to elaborate documents about Physiology and to work in a team.
- R7 He argues with rational criteria from his work.
- R8 Shows ability to solve problems based on clinical cases.



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
CG10 FWork in a multidisciplinary team		x		
CG20 SKnowledge of other cultures and customs	x			
CG1 I aCapacity for analysis and synthesis				x
CG11 PWork in an international context	x			
CG2 I bOrganizational and planning skills			x	
CG12 FInterpersonal skills		x		
CG22 SInitiative and entrepreneurship		x		
CG3 I cOral and written communication in the native language			x	
CG13 FRecognition of diversity and multiculturalism	x			
CG23 SMotivation for quality	x			
CG4 I dKnowledge of a foreign language		x		
CG14 FCritical Reasoning			x	
CG24 SSensitivity to environmental issues	x			
CG5 I eComputer skills related to the field of study	x			
CG15 FEthical commitment		x		



Year 2025/2026
480103 - Human and Oral Physiology

SPECIFIC	Weighting			
	1	2	3	4
CE A 1 Know the essential elements of the dental profession, including ethical principles and legal responsibilities.		X		
CE A 2 Understand the importance of such principles for the benefit of the patient, society and the profession, with special attention to professional secrecy.		X		
CE A 3 Identify the patient's concerns and expectations, as well as to communicate effectively and clearly, both orally and in writing, with patients, relatives, the media and other professionals.		X		
CE A 4 Understand and recognize the social and psychological aspects relevant to the treatment of patients.		X		
CE A 5 Know how to apply the principles of anxiety and stress management to oneself, to patients and to other members of the dental team.		X		
CE A 6 Understand the importance of developing a professional practice with respect to patient autonomy, beliefs and culture.		X		
CE A 7 Promote autonomous learning of new knowledge and techniques, as well as motivation for quality.		X		
CE A 8 Know how to share information with other health professionals and to work as a team.		X		



CE A 9 Understand the importance of maintaining and using records with patient information for subsequent analysis, preserving the confidentiality of the data.	X		
CE A 10 Know and identify the psychological and physical problems derived from gender violence in order to train students in the prevention, early detection, assistance, and rehabilitation of the victims of this form of violence.	X		
CE B 1 Understand the basic biomedical sciences on which dentistry is based to ensure proper oral care.	X		
CE B 1 Understand and recognize the normal structure and function of the stomatognathic system, at the molecular, cellular, tissue and organic level, in the different stages of life.	X		
CE B 1 Understand and recognize the science of biomaterials essential for dental practice as well as the immediate management of possible allergies to them.	X		
CE B 14 Know about general disease processes, including infection, inflammation, immune system disorders, degeneration, neoplasm, metabolic disorders and genetic disorders.	X		
CE B 1 Be familiar with the general pathological features of diseases and disorders affecting organ systems, specifically those with oral impact.	X		
CE B 1 Understand the fundamentals of action, indications and efficacy of drugs and other therapeutic interventions, knowing their contraindications, interactions, systemic effects and interactions on other organs, based on available scientific evidence.	X		
CE B 1 Understand and recognize the principles of ergonomics and safety at work (including control of cross-infection, radiation protection and occupational and biological diseases).	X		
CE B 1 Know, critically evaluate and know how to use clinical and biomedical information sources to obtain, organize, interpret and communicate scientific and health information.	X		
CE B 1 Know the scientific method and have the critical capacity to value the established knowledge and the new information. Be able to formulate hypotheses, collect and critically evaluate information for the resolution of problems, following the scientific method.	X		



TRANSVERSAL	Weighting			
	1	2	3	4
1. a. Analysis and synthesis skills			x	
1. b. Organizational and planning capacity			x	
1. c. Oral and written communication in the native language.			x	
1. d. Knowledge of a foreign language		x		
1. e. Computer skills		x		
1. f. Information management capacity		x		
1. g. Problem solving		x		
1. h. Decision making		x		
2. i. Teamwork		x		
2. j. Multidisciplinary teamwork			x	
2. k. Work in an international context	x			
2. l. Interpersonal skills		x		
2. m. Recognition of diversity and multiculturalism	x			
2. n. Critical Reasoning	x			
2. o. Ethical commitment	x			
3. p. Autonomous learning			x	
3. q. Adaptation to new situations		x		
3. r. Creativity	x			



3. s.	Leadership	x			
3. t.	Knowledge of other cultures and customs	x			
3. u.	Initiative and entrepreneurship	x			
3. v.	Motivation for quality	x			
3. w.	Sensitivity to environmental and socio-health issues	x			



Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
R1, R2, R3, R4	30,00%	OPEN QUESTIONS: Written exam in which basic theory knowledge and the ability to relate, integrate and coherently express it in writing is assessed.
R1, R2, R3, R4	40,00%	MULTIPLE CHOICE TEST: Multiple choice test with one correct answer. This shows to greater extent the contents acquired by the student.
	0,00%	ORAL TEST: Oral exam in which the student answers the questions the teacher asks, verbally explaining the contents acquired, allowing for interaction with the teacher.
	0,00%	PRESENTATION: The student develops by means of an oral presentation, supported with audio-visual materials, a theme or topic given by the teacher. At the end of the presentation, the teacher or audience may ask questions.
R4, R7, R8	10,00%	PRACTICAL: Written test in which the student is asked to solve practical exercises, clinical cases or problems about the contents of different subjects.
R5, R6	10,00%	ASSIGNMENTS: The student, either individually or in a group, develops a theme which reviews or researches, and he/she presents it, in writing, for assessment by the teacher.
	0,00%	CLASS PARTICIPATION: The teacher assesses the participation, involvement and progress the student makes in acquiring knowledge and skills in theory and practical classes and seminars. This is never more than 5% of the final grade.



R4, R7, R8

10,00%

PRACTICAL EXAM: The student carries out a test in which he/she must show by means of practical application the acquisition of certain knowledge. For example, histological or anatomopathological diagnoses, interpretation of images or diagnostic tests.

Observations

To pass the course, a 5-point grade or higher must be obtained, both in the theory and practice parts of the course.

In case only one of the course parts (theory or practice) is completed in the 1st call, the course will not be passed but the grade of the completed part will be kept for the 2nd call. In case only one part of the course is completed after the 1st and 2nd calls, the grade of the completed part will not be saved for the next academic year.

Attendance to the practices is mandatory, and absences must be always justified.

- In case there is 1 justified absence to the practices, the student will be allowed to take the exam at the 1st and 2nd calls normally.

- In the event of 2 justified absences to the practices, the student will not be allowed to take the exam in the 1st call but will be able to take the 2nd call exam.

- In case there are more than 2 justified absences to the practices, the student will not be allowed to take the exam either in the 1st or 2nd call, and will have to enroll again in the course in the following academic year.

- In case there is 1 unjustified absence to the practices, the student will not be allowed to take the exam in the 1st call but will be able to do it in the 2nd.

- In case of 1 unjustified absence and a 1 justified absence, the student will not be allowed to take the exam either in the 1st or 2nd call, and will have to enroll again in the course in the following academic year.

Award of Honors

Honors may be awarded to the best students provided they achieve an overall grade equal to or higher than 9. The maximum number of Honors awarded will follow the following rule:

- From 1 to 39 enrolled students: 1 Honors
- From 39 to 59 enrolled students: 2 Honors
- From 60 to 79 students enrolled: 3 Honors

Evaluation by single assessment:

This course does not offer evaluation by single assessment, as it requires mandatory practical activities with active student participation.

Use of Artificial Intelligence (AI):

Students may use AI for personal study of the course. Students may not use AI to complete assessable assignments unless required for a specific activity and instructed by the instructor. If AI is used in any of the activities, the specific part of the activity, the AI tool used, and the purpose for which it was used must be stated.



MENTION OF DISTINCTION:

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:

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|-----|---|
| M1 | Lecture.
Problem Solving.
Explanation of contents by the teacher.
Explanation of knowledge and skills. |
| M2 | Practical basic sciences laboratory sessions, practical simulation laboratory sessions, virtual hospital and dissecting room. |
| M5 | Problem and case solving. Written tasks.
Online activity on the e-learning platform.
Personal study.
Compiling information and documentation. |
| M10 | Carrying out bibliographic reviews and practical work experience dissertations. |
| M13 | Personal preparation of written texts, essays, problem solving, seminars. |
| M15 | Personalised Attention. Period of instruction and/or guidance carried out by a tutor with the aim of analysing with the student his/her work, activities and evolution in learning of subjects. |



IN-CLASS LEARNING ACTIVITIES

	LEARNING OUTCOMES	HOURS	ECTS
THEORY CLASS M1, M5	R1, R2, R3, R4, R5, R6, R7, R8	48,00	1,92
SEMINAR M5	R6, R7, R8	2,00	0,08
TUTORING M5	R6, R7, R8	2,00	0,08
EVALUATION M1, M2, M5	R1, R2, R3, R4	2,00	0,08
PRACTICAL CLASS M2	R1, R2, R3, R4, R5, R6, R7, R8	6,00	0,24
TOTAL		60,00	2,40

LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
INDIVIDUAL WORK M5	R1, R2, R3, R5, R6, R7, R8	90,00	3,60
TOTAL		90,00	3,60



Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

Content block	Contents
Unit 1 Introduction to Human Physiology	Homeostasis Concept Cellular Physiology
Unit 2 Physiology of the Nervous System	Action Potential Neuronal physiology
Unit 3 Physiology of the Endocrine System.	Endocrine glands: secretion and action of hormones.
Unit 4 Physiology of the Cardiovascular System	Blood, heart and circulation Cardiac output, blood flow and blood pressure
Unit 5 Physiology of the Respiratory System	Gas exchange pH Regulation
Unit 6 Digestive System Physiology	Digestive enzymes Hepatic portal circulation
Unit 7 Physiology of the Excretory System	Excretion Regulation of the digestive and excretory process
Unit 8 Physiology of the Reproductive System	Anatomical description of the reproductive system Physiology of pregnancy and childbirth Hormonal control
Unit 9 Practical Exercises	Electrocardiogram Tactile sensitivity Computer simulation of physiological processes



Temporary organization of learning:

Block of content	Number of sessions	Hours
Unit 1 Introduction to Human Physiology	2,00	4,00
Unit 2 Physiology of the Nervous System	4,00	8,00
Unit 3 Physiology of the Endocrine System.	4,00	8,00
Unit 4 Physiology of the Cardiovascular System	4,00	8,00
Unit 5 Physiology of the Respiratory System	4,00	8,00
Unit 6 Digestive System Physiology	4,00	8,00
Unit 7 Physiology of the Excretory System	3,00	6,00
Unit 8 Physiology of the Reproductive System	2,00	4,00
Unit 9 Practical Exercises	3,00	6,00

References

- Costanzo, L. S. (2022). *Physiology* (7th ed.). Barcelona: Elsevier.
- Boron, W. F. (2023). *Medical Physiology* (3rd ed.). Elsevier.
- Hall, J. E. (2023). *Guyton & Hall Textbook of Medical Physiology* (14th ed.). Elsevier Spain.