Information about the subject

Degree: Bachelor of Science Degree in Dentistry

Faculty: Faculty of Medicine and Health Sciences

Code: 481102 **Name:** Biology

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

Module: Module 1: Relevant Basic Biomedical Sciences in Dentistry

Subject Matter: Biology **Type:** Basic Formation

Field of knowledge: Health sciences

Department: Pathology

Type of learning: Classroom-based learning

Languages in which it is taught: English, Spanish

Lecturer/-s:

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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	Distinguishes the different levels of organization of living beings.
R2	Knows how to distinguish the different types of tissues.
R3	Identifies cellular structures and organelles.
R4	Knows how to use different work techniques in the laboratory.
R5	Interprets results obtained in the practices.
R6	The student is able to prepare documents on cell and tissue biology and work in teams.
R7	Looks for information in bibliographic sources, and knows how to analyze them.
R8	Knows the basic principles of obtaining and transporting samples to the laboratory, as well as their processing.

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 I aCapacity for analysis and synthesis		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	
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			
CG6 I f Information management capacity		x		
CG16 SAutonomous learning			x	
CG7 I gProblem solving	x			
CG17 SAdaptation to new situations	x			
CG8 I hDecision making		x		

CG9 P i	Teamwork		x	

SPECIFIC	Weighting			
	1	2	3	4
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 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 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 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. l.	Interpersonal skills		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. 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, R8	75,00%	MULTIPLE CHOICE TEST: Multiple choice test with one correct answer. This shows to greater extent the contents acquired by the student.
R1, R2, R3, R6, R7, R8	10,00%	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.
R5	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.
	5,00%	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.

Observations

Notes on the evaluation system:
The maximum grade for the subject will be 10.0 points. In order to pass the course, a grade of at least 5.0 points must be achieved. The total points of the course will be counted by the sum of the points obtained in each of the evaluation instruments mentioned above, provided that at least 50% of the final exam is obtained, which will be a multiple-choice test and whose maximum grade is 10.0 points.
In order to obtain the laboratory practices grade, it is mandatory to attend the two laboratory practices and to hand in the corresponding report.
Criteria for the awarding of Mention of distinction:
The mention of "Distinction of Honor" may be awarded to students who have obtained a minimum grade of 9, taking into account the limitation of 5% of the students enrolled in the course. If circumstances so require, a special test may be established to determine those students deserving of the "Distinction of honor". In the second and subsequent examinations, only the number of honors that may remain after the first examination may be awarded.
Development of the course in the second and subsequent examinations:

The grade for the laboratory practices is kept and the exam is worth 90% of the grade.

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:

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.
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, M15	R1, R2, R3, R8	42,00	1,68
SEMINAR M13	R6, R7	4,00	0,16
TUTORING M15	R1, R2, R3, R8	4,00	0,16
PRACTICAL CLASS M2	R3, R4, R5, R8	4,00	0,16
TOTAL		**54,00**	**2,16**

LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
INDIVIDUAL WORK M10, M13	R1, R2, R3, R6, R7, R8	90,00	3,60
GROUP WORK M10	R4, R5, R6	6,00	0,24
TOTAL		**96,00**	**3,84**

Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

Content block	Contents
INTRODUCTION	Unit 1. Overview of the cell and cell research. Unit 2. Molecules and membranes.
CELL STRUCTURE AND FUNCTION	Unit 3. The cell nucleus. Unit 4. Distribution and transport of proteins: endoplasmic reticulum, Golgi apparatus and lysosomes. Unit 5. Bioenergetics and metabolism: mitochondria, chloroplasts and peroxisomes. Unit 6. Cytoskeleton and cell movement. Unit 7. Plasma membrane. Unit 8. Cell walls, extracellular matrix and cellular interactions.
CELL REGULATION	Unit 9. Cell signaling. Unit 10. Cell cycle. Unit 11. Cell death and renewal. Unit 12. Cancer.

Temporary organization of learning:

Block of content	Number of sessions	Hours
INTRODUCTION	5,00	10,00
CELL STRUCTURE AND FUNCTION	14,00	28,00
CELL REGULATION	8,00	16,00

References

COOPER GM & HAUSMAN RE. **The cell**. 7th Ed. Marbán 2017 .