



Information about the subject

Degree: Bachelor of Science Degree in Dentistry

Faculty: Faculty of Medicine and Health Sciences

Code: 481107 **Name:** Microbiology

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

Module: Module 1: Relevant Basic Biomedical Sciences in Dentistry

Subject Matter: Biology **Type:** Compulsory

Field of knowledge: Health sciences

Department: Biomedical Sciences

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 use different work techniques in the laboratory.
- R3 Interprets results obtained in the practices.
- R4 Looks for information in bibliographic sources, and knows how to analyze them.
- R5 Knows the basics of Microbiology and the main microorganisms related to the infectious processes that affect man.
- R6 Knows the basic principles of obtaining and transporting samples to the laboratory, as well as their processing.
- R7 Knows the main techniques of microbiological diagnosis and the proper interpretation of all of them being able to issue a diagnosis in relation to oral pathology.
- R8 The student knows the mechanism of action of antibiotics and the main indications of their therapeutic use.
- R9 Knows the main methods of sterilization and disinfection, in order to apply them properly.
- R10 Knows the most relevant clinical pictures of infectious etiology in the clinic and especially in dentistry.
- R11 The student is able to adequately record the information obtained and prepare reports for multidisciplinary teamwork.
- R12 Searches for bibliographic information from different sources (including English) and know how to analyze it with a critical and constructive spirit.



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		
CG3 I cOral and written communication in the native language		X		
CG4 I dKnowledge of a foreign language		X		
CG14 FCritical Reasoning		X		
CG6 I fInformation 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 iTeamwork			X	
CG19 SLeadership			X	
SPECIFIC	Weighting			
	1	2	3	4



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 B 1 Understand the basic biomedical sciences on which dentistry is based to ensure proper oral care.					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. f.	Information management capacity		X	
1. g.	Problem solving		X	
2. i.	Teamwork		X	
2. l.	Interpersonal skills		X	
2. o.	Ethical commitment		X	
3. u.	Initiative and entrepreneurship	X		
3. v.	Motivation for quality		X	



Assessment system for the acquisition of competencies and grading system

Assessed learning outcomes	Granted percentage	Assessment method
R1, R5, R8, R9, R10	60,00%	MULTIPLE CHOICE TEST: Multiple choice test with one correct answer. This shows to greater extent the contents acquired by the student.
R4, R8, R11, R12	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.
R2, R3, R6, R7	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.
R2, R3, R6, R7, R9	20,00%	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 subject, you must achieve a grade equal to or higher than 5 in both the theoretical and practical parts of the subject. In the event of passing one part of the subject (theory or practical) and failing the other in the first attempt, the grade for the passed part will be retained for the second attempt. If, after the second attempt, only one part of the subject has been passed, the grade will not be carried over to the next course.

Attendance in practical sessions is mandatory, and any absences must always be justified. Only 1 absence from the laboratory is allowed, if it is justified. Unjustified absence from a practical will result in a 10% penalty in the practical exam grade. Unjustified absence to 2 or more practical sessions will result in a penalty of 50% of the practical exam grade.

Awarding of Honors: Honors may be granted to the top-performing students, provided they achieve an overall grade equal to or higher than 9.

The maximum number of Honors granted will follow the following rule:

- 1 Honor for 1 to 39 enrolled students.- 2 Honors for 40 to 59 enrolled students.- 3 Honors for 60 to 79 enrolled students.



CRITERIA FOR AWARDING HONORS: According to Article 22 of the Regulations Governing the Evaluation and Grading of Subjects at UCV, the "Honors" designation may be awarded by the course instructor to students who have achieved a grade of "Outstanding." The number of "Honors" designations that can be awarded may not exceed five percent of the students included in the same official record, unless this number is less than 20, in which case only one "Honor" may be granted.

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	R4, R5, R7, R8, R10, R11, R12	46,00	1,84
SEMINAR M13	R5, R7, R12	2,00	0,08
TUTORING M15	R5, R11, R12	2,00	0,08
EVALUATION M1, M2, M10	R5, R6, R7, R8, R9, R10, R11	2,00	0,08
PRACTICAL CLASS M2	R6, R7	8,00	0,32
TOTAL		60,00	2,40

LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
INDIVIDUAL WORK M13	R12	30,00	1,20
GROUP WORK M10, M13	R11, R12	60,00	2,40
TOTAL		90,00	3,60



Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

Content block	Contents
I. GENERAL MICROBIOLOGY	<ul style="list-style-type: none">·Chapter 1. Introduction·Chapter 2. Bacteria·Chapter 3. Viruses·Chapter 4. Fungi
II. IMMUNOLOGY	<ul style="list-style-type: none">·Chapter 5. Defenses against microorganisms
III. CLINICAL MICROBIOLOGY	<ul style="list-style-type: none">·Chapter 6. Infections of the skin and soft tissues·Chapter.7. Infective endocarditis and sepsis syndrome·Chapter.8. Respiratory tract infections·Chapter 9. Genitourinary tract infections·Chapter.10. CNS infection
IV. ORAL MICROBIOLOGY	<ul style="list-style-type: none">·Chapter 11. The oral microflora and dental plaque·Chapter 12. Dental caries·Chapter 13. Periodontal diseases·Chapter 14. Infections of the pulp, periapical tissues and bone of the jaw·Chapter 15. Salivary gland infections·Chapter 16. Antimicrobial agents



Temporary organization of learning:

Block of content	Number of sessions	Hours
I. GENERAL MICROBIOLOGY	10,00	20,00
II. IMMUNOLOGY	2,00	4,00
III. CLINICAL MICROBIOLOGY	8,00	16,00
IV. ORAL MICROBIOLOGY	10,00	20,00

References

- 1.Essential Microbiology for Dentistry - Samaranayake, L. 5th Edition. Churchill Livingstone. 2012.
- 2.MICROBIOLOGÍA ORAL -.Liebana Ureña, J.- 2ª ed. España - McGraw-Hill Interamericana - 2002.
- 3.MICROBIOLOGÍA ESTOMATOLÓGICA. FUNDAMENTOS Y GUÍA PRÁCTICA - Negroni, M. - 2ª ed. Buenos Aires. Editorial Médica Panamericana; 2009



Addendum to the Course Guide of the Subject

Due to the exceptional situation caused by the health crisis of the COVID-19 and taking into account the security measures related to the development of the educational activity in the Higher Education Institution teaching area, the following changes have been made in the guide of the subject to ensure that Students achieve their learning outcomes of the Subject.

Situation 1: Teaching without limited capacity (when the number of enrolled students is lower than the allowed capacity in classroom, according to the security measures taken).

In this case, no changes are made in the guide of the subject.

Situation 2: Teaching with limited capacity (when the number of enrolled students is higher than the allowed capacity in classroom, according to the security measures taken).

In this case, the following changes are made:

1. Educational Activities of Onsite Work:

All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject will be made through a simultaneous teaching method combining onsite teaching in the classroom and synchronous online teaching. Students will be able to attend classes onsite or to attend them online through the telematic tools provided by the university (videoconferences). In any case, students who attend classes onsite and who attend them by videoconference will rotate periodically.

In the particular case of this subject, these videoconferences will be made through:

Microsoft Teams

Kaltura



Situation 3: Confinement due to a new State of Alarm.

In this case, the following changes are made:

1. Educational Activities of Onsite Work:

All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject, as well as the group and personalized tutoring, will be done with the telematic tools provided by the University, through:

Microsoft Teams

Kaltura

Explanation about the practical sessions:



2. System for Assessing the Acquisition of the competences and Assessment System

ONSITE WORK

Regarding the Assessment Tools:

The Assessment Tools will not be modified. If onsite assessment is not possible, it will be done online through the UCVnet Campus.

The following changes will be made to adapt the subject's assessment to the online teaching.

Course guide		Adaptation	
Assessment tool	Allocated percentage	Description of the suggested changes	Platform to be used

The other Assessment Tools will not be modified with regards to what is indicated in the Course Guide.

Comments to the Assessment System: