



Information about the subject

Degree: Bachelor of Science Degree in Dentistry

Faculty: Faculty of Medicine and Health Sciences

Code: 480407 **Name:** Pathology of the Temporo-Mandibular Joint and Orofacial Pain

Credits: 6,00 **ECTS Year:** 4 **Semester:** 2

Module: Module 4: Dental Pathology and Therapeutics

Subject Matter: DENTAL PATHOLOGY **Type:** Compulsory

Field of knowledge: Health Sciences

Department: Dentistry

Type of learning: Classroom-based learning

Languages in which it is taught: English, Spanish

Lecturer/-s:

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Module organization

Module 4: Dental Pathology and Therapeutics

Subject Matter	ECTS	Subject	ECTS	Year/semester
DENTAL THERAPY	66,00	Cosmetic Dentistry	6,00	4/2
		Orthodontics I	6,00	3/2
		Orthodontics II	6,00	4/1
		Paediatric Dentistry I	6,00	4/1
		Paediatric Dentistry II	6,00	4/2
		Pathology and Dental Therapeutics I	6,00	3/1
		Pathology and Dental Therapeutics II	6,00	3/2
		Pathology and Dental Therapeutics III	6,00	4/1
		Prosthodontics I	6,00	3/1
		Prosthodontics II	6,00	3/2
		Prosthodontics III	6,00	4/1
DENTAL PATHOLOGY	60,00	Dental Traumatology	6,00	5/1
		Dentistry in Special Patients	6,00	4/2
		Emergencies in Dentistry	6,00	5/2
		Legal and Forensic Dentistry	6,00	5/1



DENTAL PATHOLOGY	Oral Medicine	6,00	3/1
	Oral Surgery I	6,00	4/1
	Oral Surgery II - Implantology	6,00	5/2
	Pathology of the Temporo-Mandibular Joint and Orofacial Pain	6,00	4/2
	Periodontics I	6,00	3/2
	Periodontics II	6,00	4/2

Recommended knowledge

Have previously completed:

- Prosthesis I and II
- Previous knowledge about Occlusion



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 functional and biomechanical anatomy of the masticatory system, TMJ and jaw movement as well as the occlusion. Knows the anatomy and physiology of the stomatognathic system.
- R2 Knows the neuroanatomy of orofacial pain. Non-odontogenic dentistry. Knows the sensory pathways that collect nociceptive information.
- R3 Proves knowledge of the exploration of the patient with dysfunction, apparatus and materials necessary for the realization of therapeutic splints. Identifies the clinical differences between dysfunctional patients.
- R4 The student is able to successfully develop an appropriate therapeutic treatment for each modality of pathology of the joint or craniocervical musculature. Treatment for each clinical modality in CMD.
- R5 Knows the etiology of temporomandibular disorders. Knows the different etiological factors that can lead to TMD.
- R6 The student is able to make a clinical diagnosis prior to occlusal rehabilitation if necessary. Knows how occlusion intervenes in TMD.
- R7 Proves practical knowledge of how to determine the stable musculoskeletal position and assess the dental position of the TMJ.
- R8 Proves knowledge of the exploration of the patient with dysfunction. Knows how to extraorally explore the masticatory and cervical muscles that may be involved in a TMD. Loading test. Articular distraction, maximum opening, lateralities and protrusion.
- R9 Knows the classification of Lauritzen and interferences. Lauritzen classification. Implications, interferences in protrusion, in work and in balance.
- R10 Knows the functional exploration of the lateral pterygoid muscles



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		
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 9 Understand the importance of maintaining and using records with patient information for subsequent analysis, preserving the confidentiality of the data.			X	
CE C 2iObtain and prepare a medical history containing all relevant information.			X	
CE C 2Knowing how to perform a complete oral examination, including the appropriate radiographic and complementary examination tests, as well as obtaining appropriate clinical references.	X			
CE C 2Be able to make an initial diagnostic judgement and establish a reasoned diagnostic strategy, being competent in the recognition of situations requiring urgent dental care.	X			
CE C 2Establish the diagnosis, prognosis and adequate therapeutic planning in all clinical areas of dentistry, being competent in the diagnosis, prognosis and elaboration of the dental treatment plan of the patient requiring special care, including medically compromised patients (such as diabetics, hypertensive, immunosuppressed, anticoagulated, among others) and patients with disabilities.	X			
CE C 2Recognize life-threatening situations and know how to perform basic life support maneuvers.	X			



CE D 2 Know and apply the basic treatment of the most common oral pathology in patients of all ages. Therapeutic procedures should be based on the concept of minimum invasion and on a global and integrated approach to oral treatment.	X			
CE D 2 Know how to plan and carry out multidisciplinary, sequential and integrated dental treatments of limited complexity in patients of all ages and conditions and patients requiring special care.		X		
CE D 2 Plan and propose the appropriate preventive measures for each clinical situation.		X		
CE D 2 Acquire clinical experience under proper supervision.			X	
CE E 3 Recognise the role of the dentist in actions to prevent and protect against oral diseases, as well as in the maintenance and promotion of health, both at individual and community level.	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
	40,00%	OPEN QUESTIONS: Written exam in which basic theory knowledge and the ability to relate, integrate and coherently express it in writing is assessed.
	50,00%	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.
	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.
	0,00%	PRACTICAL: Written test in which the student is asked to solve practical exercises, clinical cases or problems about the contents of different subjects.
	0,00%	ASSIGNMENTS: The student, ether 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.



0,00%	SIMULATIONS, OSCES: Through simulations, real-life situations are reproduced in standardised conditions, which enable the teacher to analyse the clinical skills of the student in specific situations. Computer simulations or standardised simulated illnesses are used. The test known as OSCE (Objective Structured Clinical Examination) may also be used. The OSCE consists of students going around a circuit of sequential stops where they are asked to carry out a variety of different skills and techniques.
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0,00%	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

OPEN QUESTIONS: Written exam in which theoretical knowledge and the student's ability to relate, integrate and express it coherently in written language are fundamentally evaluated.

(0.00%-40.00%) % **TEST TYPE TESTS:** Multiple response exam with only one correct answer. It allows the student to learn more about the content acquired by the student. (0.00%-80.00%) %

ORAL TEST: Oral exam in which the student answers the questions that the teacher asks, verbally explaining the knowledge acquired, allowing interaction with the teacher. (0.00%-30.00%) %

EXHIBITION: The student develops through an oral presentation, supported or not with audiovisual means, a topic or work commissioned by the teacher. At the end of the presentation the teacher or the audience can ask questions. (0.00%-30.00%) %

PRACTICES: Written test in which the student is asked to solve practical exercises, clinical cases or problems on the knowledge of the different subjects. (0.00%-30.00%)



- ATTENDANCE IS REQUIRED FOR 90% OF THE SUBJECT BETWEEN THEORY AND PRACTICE.
- YOU CAN ALWAYS JUSTIFIEDLY MISS A THEORETICAL AND/OR PRACTICAL CLASS - ABSENCES CAN ONLY BE JUSTIFIED WITH THE SAME REASONS AS THE UCV STATUTES FOR CHANGE OF EXAM DATE
- IF THE MAXIMUM NUMBER OF EXCUSED ABSENCES ALLOWED IS EXCEEDED, THEY MUST BE SUBMITTED DIRECTLY TO THE 2ND CALL
- TO ACCESS THE 2ND CALL, THE STUDENT CANNOT ABSENCE MORE THAN 1 JUSTIFIED ABSENCE OR 1 UNJUSTIFIED ABSENCE. IF THE LIMIT FOR THE SECOND CALL IS EXCEEDED, THE STUDENT WILL MUST TAKE THE SUBJECT AGAIN THE NEXT YEAR - THE STUDENT HAS THE OBLIGATION TO COMPLY WITH THE REGULATIONS OF CLINICAS UCV, REGARDING CLOTHING, CARE OF THE FACILITIES AND BEHAVIOR. FAILURE TO COMPLY WILL RESULT IN A SANCTION/EXPULSION FROM THE PRACTICE
- SECOND ENROLLMENT STUDENTS: THE PRACTICE NOTE WILL BE KEPT AS LONG AS THEY ARE APPROVED. IN THIS CASE, THEY WILL ONLY HAVE TO PASS THE FINAL EXAM WITH A MINIMUM 5

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.
- M3 Problem and case solving.
Social action activities.
- M4 Group work with research, discussion and filtering information about the degree subjects.
- M6 Discussion and problem solving.
- M8 Oral presentations by students.
- M9 Group work: group work sessions supervised by the teacher.
Knowledge building through interaction and activity of students.
- M10 Carrying out bibliographic reviews and practical work experience dissertations.
- M11 Practical in-person classes in clinics linked to the university, where the student will carry out different treatments under direct supervision from the assigned tutor .
- M12 Seminars, supervised monographic classes with shared participation.
- 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, M2	R1, R2, R3	36,00	1,44
PRACTICAL CLINICAL SESSION M2, M11	R3	10,00	0,40
SEMINAR M1, M6, M12	R5, R6	4,00	0,16
TUTORING M3, M6, M15	R1, R2, R3, R4, R5, R6, R7, R8, R9, R10	4,00	0,16
EVALUATION M15	R5, R6	8,00	0,32
PRACTICAL CLASS M1, M6, M11	R1, R2, R3, R4, R5, R6, R7, R8, R9, R10	14,00	0,56
TOTAL		76,00	3,04

LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
INDIVIDUAL WORK M13	R1, R2, R3, R4, R5, R6, R7, R8, R9, R10	44,00	1,76
GROUP WORK M8, M9, M10	R1, R2, R3, R4, R5, R6, R7, R8, R9, R10	30,00	1,20
TOTAL		74,00	2,96



Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

Content block	Contents
OROFACIAL PAIN AND TEMPORO-MANDIBULAR DYSFUNCTION	1.TMJ functional anatomy2.Basic neuroanatomy3.Functional neuroanatomy and physiology of the stomatognathic apparatus4.Orofacial Pain Classification5.Craneofacial pain and Cephalaea6.Seminar. Pain psychological aspects7.TMD etiology8.Signs and symptoms of TMD9.Clinical files and clinical exam od TTM 10.Diagnosis of TMD11.Chewing muscles tratment12.Treatment of intrarticular TMJ problems 13.Treatment of chronic mandibular hypomobility and developmental abnormalities.14.Occlusal mouth guard treatment.

Temporary organization of learning:

Block of content	Number of sessions	Hours
OROFACIAL PAIN AND TEMPORO-MANDIBULAR DYSFUNCTION	38,00	76,00



References

Jeffrey P. Okeson, DMD Orofacial Pain according to Bell fifth ed,
Arturo Manns Freese, Stomatognathic System, Biological bases and clinical correlations, Ripano
FURTHER READING

J.P. Okeson, Occlusion and temporomandibular conditions, 4th ed., Madrid, Mosby/Doyma
books, 1999 Editores, S.A., 1982.

Wall and Mellzack, Treatise on Pain, 5 ed, Elsevier

Horacio O. Maglione Jorge Iaraudo Luis de Zabaleta Craniomandibular Dysfunction. Conditions
of the chewing muscles and TMJ, orofacial pain, AMOLCA Axell Bumann, Ulrich Lotzmann, Atlas
of Functional Diagnostics and Therapeutic Principles in Dentistry. MASSON

Peter Dawson, Functional Occlusion: smile design from TMJ part one and part two. AMOLCA

Juan C. Arellano. Compendium on Diagnosis of TMJ Pathologies



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:

ATTENDANCE: Attendance is mandatory at 90%.

Students are allowed to be absent for a maximum of 1 justified clinical practices and/or theoretical sessions in total.

Absences can only be justified with the same reasons stated in the UCV statutes for rescheduling exams.

If the maximum number of allowed justified absences is exceeded, students must directly attend the 2nd examination period.

To access the 2nd examination period, the student must not exceed 1 justified absences or have more than 1 unjustified absence. If this limit is exceeded, the student will have to retake the subject next year.



Students are obligated to comply with the UCV clinical regulations regarding attire, facility care, and behavior. Failure to comply will result in a penalty/expulsion from the practice.





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
Exámen	40	Exámen 80	Teams
Exámen tipo test	50		
Practico	10	Practico 20	Teams

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

Comments to the Assessment System:

SECOND REGISTRATION STUDENTS: Second registration students must retake the practices if they've not passed. If they had passed the practices, they must pass the exam with a 5.



Universidad
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Course guide

Year 2024/2025

480407 - Pathology of the Temporo-Mandibular Joint and Orofacial Pain

