



Information about the subject

Degree: Bachelor of Science Degree in Dentistry

Faculty: Faculty of Medicine and Health Sciences

Code: 480410 **Name:** Prosthodontics III

Credits: 6,00 **ECTS Year:** 4 **Semester:** 1

Module: Module 4: Dental Pathology and Therapeutics

Subject Matter: DENTAL THERAPY **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

Students will be able to prepare and carve teeth structures, from a theoretical and practical point of view. They will know how to prepare different techniques for different materials such as metal ceramics; all ceramics; metal core. Principles of dental preparation from a Biologic, Mechanic and Esthetic point of view.

Modern techniques for reconstruction of totally destroyed teeth, like Inlays, Onlays and Overlays. Digital dentistry in Fixed Prosthesis and use of CAD/CAM tools. Use of dental scanners. Use of all the necessary materials and equipment for the different preparations like crowns, veneers, and Inlays. Colour taking and laboratory communication. Clinical sessions and Xray viewing for learning decision making of cases.



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 The student is able to obtain and elaborate a clinical history.
- R2 Knows how to carry out an intra and extraoral clinical examination.
- R3 Studies the different therapeutic approaches of the multidisciplinary patient and the sequence and coordination of such cases.
- R4 Understands non-cariogenic dental pathology.
- R5 Knows of cariogenic dental pathology.
- R6 Knows manual and rotary instruments used in dental therapy.
- R7 Knows the isolation of the operating field.
- R8 Knows cavity design and preparation.
- R9 Knows the use and application of dental restoration materials.
- R10 Proves knowledge and prevention of iatrogeny in dental therapy.
- R11 The student proves to be competent in assessing the condition of the teeth by establishing a diagnosis and prognosis as well as knowing how to formulate a treatment plan.
- R12 The student proves to be competent at assessing the patient's risk of caries and implementing individualized strategies for caries prevention.
- R13 The student proves to be competent at performing caries removal or other treatments that aim to eliminate caries using techniques that preserve pulp viability.
- R14 The student proves to be competent in evaluating and treating non-caryogenic dental pathology.



- R15 The student proves to be competent in performing therapeutic procedures aimed at preserving, establishing or restoring the form, function and aesthetics of the teeth, as well as the way of the dental pulp.
- R16 The student proves to be competent in recognizing the signs that indicate that the treatment will be complex and in knowing how to take adequate measures to treat it.
- R17 Knows the etiopathogenesis of the octopus-periapical diseases.
- R18 Knows the relevant dental anatomy in endodontics.
- R19 Knows the manual and rotary instruments used in endodontics.
- R20 Proves knowledge of the different phases and techniques of endodontic treatment: opening, cleaning and shaping and filling of root canals.
- R21 Knows the different complications of endodontic treatment and the resolution of these problems.
- R22 Knows the techniques and applications of surgical endodontics.
- R23 Evaluates the success and failure of endodontic treatments.
- R24 The student proves to be competent in the recognition of pulp and pulpoperiapical pathology.
- R25 The student proves to be competent in making a correct diagnosis.
- R26 The student can recognize and use the instruments commonly used in endodontics.
- R27 The student proves to be competent in performing endodontic treatments on natural teeth.
- R28 The student is able to recognize the complexity of an endodontic treatment case.
- R29 Knows the specific problems of developing teeth, with anatomical variations or reabsorption.
- R30 Knows the physical characteristics of teeth with great destruction of their structure and the means of reconstruction.
- R31 Knows the materials and techniques of retention in vital and non-vital teeth.



- R32 Discerns the difficulties in the reconstruction of proximal faces and contact points : matrices and wedges
- R33 The student is able to diagnose and treat the fissured tooth.
- R34 Knows the different specialized systems of mechanically assisted endodontics.
- R35 Distinguishes the prevention, diagnosis and treatment of procedural accidents in endodontics.
- R36 Manages the organization, design and structure of scientific communication.
- R37 The student proves to be competent in recognizing the complexity of reconstructing a tooth with a large destruction.
- R38 Knows the instruments to use in the restoration of teeth with great destruction of their crown.
- R39 The student proves to be competent in the knowledge of retention aids, both on vital and non-vital teeth.
- R40 The student proves to be competent in performing root canal treatment on uncomplicated monoradicular and multi-radicular teeth and in handling the specific instruments.
The student proves to be competent in performing therapeutic procedures aimed at preserving, establishing or restoring the shape, function and esthetics of teeth, as well as the viability of the dental pulp.
The student proves to be competent in recognizing the signs that treatment will be complex and in knowing how to take appropriate measures to deal with them.
To know the components of the stomatognathic system. Biomechanics and functionality.
- R41 The student proves to be competent in performing therapeutic procedures intended to preserve, establish or restore the shape, function and esthetics of the teeth, as well as the viability of the dental pulp.
- R42 The student proves to be competent in recognizing the signs that treatment will be complex and in knowing how to take appropriate measures to deal with them.
- R43 Knows the components of the stomatognathic system. Biomechanics and functionality.
- R44 Understands the neuroanatomy and physiology of the masticatory system. Mastication - swallowing - aesthetics. Also, integrates the knowledge of the dental articulator and its importance in the dentist's daily practice. Static and dynamic occlusion.
- R45 Recognizes the generalities of the prosthetic rehabilitations, types of edentulousnesses-types of prosthesis.



- R46 Fosters the knowledge of the complete edentulous patient. Functional and morphological changes - their topographic anatomy
- R47 Masters the clinical and laboratory sequence in the elaboration of complete prostheses and the handling of biomaterials.
- R48 The student is able to solve the problems of the patient who wears prosthesis, to promote the handling of dental articulators - their importance in diagnosis and treatment. Knows the different assembly techniques. Intermaxillary records - articulator programming.
- R49 Proves knowledge to elaborate a correct clinical history and the correct handling of the information with the laboratory.
- R50 Promotes the management of dental articulators - their importance in diagnosis and treatment
- R51 Proves knowledge to elaborate a correct clinical history and the correct handling of the information with the laboratory.
- R52 Masters techniques for making individual trays, primary and secondary measurements. Obtaining the impellers for testing. Establishes a correct design of the prosthesis.
- R53 Knows the laboratory procedure for the preparation of the prosthesis - different types - resin.
- R54 Masters the concepts of aesthetics and function to recover the normal function of the toothless patient. Masters the concepts of direct-indirect retention.
- R55 Manages clinically the partial and total edentulous patients in their diagnosis and rehabilitation treatment. Knows how to solve the emergencies of partially and totally edentulous patients.
- R56 Understands the principles of dental milling (biological, mechanical and aesthetic principles). Understands the importance of respecting the biological principles of dental tissues during dental grinding.
- R57 Identifies types of dental milling. Knows how to differentiate the different types of dental milling according to the material used for the manufacture of the fixed prosthesis.
- R58 Knows about dental ceramics. Knows how to differentiate the various types, their composition and their clinical applications.
- R59 Knows about metal-ceramic and all-ceramic fixed prosthesis. Knows how to differentiate the forms of their manufacture in the laboratory, clinical applications and aesthetic results in the anterior and posterior sector.
- R60 Cad/Cam systems (CEREC). Knows how to master the different phases of this procedure and the materials that can be used with it.
- R61 Dental veneers. Knows the manufacturing procedures, types, indications and materials used.



- R62 Knows about bonded bridges, types and indications.
- R63 Knows about types of pontics and their importance.
- R64 Show ability to take measurements and materials for their application.
- R65 Carving on natural teeth in cups. Knows how to perform the different types of carving on incisors, canines, premolars and molars.
- R66 Takes measurements with silicones and polyether. Knows how to differentiate the types of material and their differences and advantages.
- R67 Takes optical measurements with Cad/Cam system. Knows the differences with respect to conventional materials and their advantages and disadvantages.
- R68 Clinical cases. Knows how to solve real clinical cases and apply the knowledge of the subject.
- R69 Defines the specific characteristics of the temporary and permanent human dentition.
- R70 Manages positional dental nomenclature systems.
- R71 Knows how to search for information from different sources and analyse it with a critical and constructive spirit.
- R72 Knows about direct and indirect composite restorations
- R73 Ceramics and aesthetics. CAD-CAM systems.
- R74 Knows about the relationship of aesthetic dentistry with other specialties.
- R75 The student proves to be competent in assessing the optimal aesthetic aspect in a smile and to identify what aspects may be breaking its harmony.
- R76 Proves knowledge of the possibilities of aesthetic restoration with the materials and techniques usually used in reconstruction with fundamentally aesthetic objectives.
- R77 Knows the necessary steps for dental restoration with composite resins and dentin adhesives.
- R78 Knows the necessary steps for dental restoration with dental ceramics and dentin adhesives.



R79 Applies the principles of dental aesthetics in the different disciplines of dentistry





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 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 D 2Know 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 2Know 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 2Plan 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.
	0,00%	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.
	25,00%	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%	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.
	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.



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.
25,00%	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

There will be from 12 to 14 practicals, depending on the academic schedule. It is mandatory to attend 90% of the practicals. You can only miss 1 practical, previous justification on the Intranet as written in the UCV rules. If you miss a practical and its not justified, the student will not be able to assist the first sitting of the final exam and will to go directly to second call for the final exam. If you miss more than 2 practicals, you will have to repeat the course.

Students must behave correctly in class and in the practical labs, if they don't do so, they will be asked to leave, and not have a mark for that day. The laboratory practicals will be marked daily when the student turns in the task of that day on the intranet. You will have 24h to turn the task in, wich will be pictures of the work done that day.

The theoretical exam will be 15 short answer questions. The practical exam will be a carving preparation as done in the practicals. Each exam must be passed seperatly. The theoretical exam must have a passing grade in order to add the practical grade.

If a student passes the practicals but does not pass the theoretical exam, he/she will have to repeat the course, but not the practical. That grade will be saved for 1 course.



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	R3	100,00	4,00
SEMINAR M3	R3	5,00	0,20
TUTORING M4	R3	5,00	0,20
PRACTICAL CLASS M3	R3	30,00	1,20
TOTAL		140,00	5,60

LEARNING ACTIVITIES OF AUTONOMOUS WORK

	LEARNING OUTCOMES	HOURS	ECTS
INDIVIDUAL WORK M3	R3	5,00	0,20
GROUP WORK M3	R3	5,00	0,20
TOTAL		10,00	0,40



Description of the contents

Description of the necessary contents to acquire the learning outcomes.

Theoretical contents:

Content block	Contents
Fixed Prosthesis III	Introduction Diagnosis related to fixed prosthesis Treatment planning Principles of tooth preparation Complete cast crown Gypsum products and dental waxes Metal ceramic preps All ceramic restorations Indirect restorations Inlays and onlays Inlay and onlay try in and cementation Restoration of endo treated teeth Interim fixed restorations BOPT technique Luting agents and cementation procedures Tissue management and Impression making Colour replication process

Temporary organization of learning:

Block of content	Number of sessions	Hours
Fixed Prosthesis III	70,00	140,00



References

- 1 Shillingburg T. Fundamentals of tooth preparations. Quintessence books
- 2 Biomimetic restorative Dentistry, Magne P. Belser U, Quintessence publishing 2023
- 3 Solutions , Veneziani M, Edra Editions 2021
- 4 Rosenstiel L. Principles of Contemporary Fixed Prosthesis, Amolca
- 5 Adhesive Ceramic Restorations , Magne P, Belser U. Quintessence Books 2008