# 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:**


| | | |
|---|---|---|
| 484A | Giovanni Vella **(Responsible Lecturer)** | giovanni.vella@ucv.es |
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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 |

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|---|---|---|---|
| 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, from a theorical and practical point of view .The will know how to prepare different techniques for different materials such as metal ceramics; allceramics; metal core. Principles of dental preparation from a Biologic, Mechanic and Aesthetic point ofview.Modern techniques for reconstruction of totally destroyed teeth, like Inlays, Onlays and Overlays. Digitaldentistry in Fixed Prosthesis and use of CAD/CAM tools. Use of dental scanners. Use of all thenecessary materials and equipment for the different preparations like crowns , veneers, and Inlays.Colour taking and laboratory comunication.

## Learning outcomes

At the end of the course, the student must be able to prove that he/she has acquired the following learning outcomes:

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| 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. |

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| 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. |

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| 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 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. |
| R41 | 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. |
| R42 | Knows the components of the stomatognathic system. Biomechanics and functionality. |
| R43 | Recognizes the generalities of the prosthetic rehabilitations, types of edentulousnesses-types of prosthesis. |
| R44 | Masters the clinical and laboratory sequence in the elaboration of complete prostheses and the handling of biomaterials. |
| R45 | Proves knowledge to elaborate a correct clinical history and the correct handling of the information with the laboratory. |
| R46 | Integrates the concepts of occlusion and its importance in dental work. |
| R47 | Recognizes the generalities and types of classification of partial toothless patients and the clinical indexes. |
| R48 | Performs a clinical examination of a partial toothless patient and makes a clinical history. |

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| R49 | Masters the clinical and laboratory sequence in the production of complete prostheses and the handling of biomaterials. |
| R50 | Proves knowledge to elaborate a correct clinical history and the correct handling of the information with the laboratory. |
| R51 | Masters techniques for making individual trays, primary and secondary measurements. Obtaining the impellers for testing. Establishes a correct design of the prosthesis. |
| R52 | Knows the laboratory procedure for the preparation of the prosthesis - different types - resin. |
| R53 | Masters the concepts of aesthetics and function to recover the normal function of the toothless patient. Masters the concepts of direct-indirect retention. |
| R54 | 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. |
| R55 | 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. |
| R56 | Knows about dental ceramics. Knows how to differentiate the various types, their composition and their clinical applications. |
| R57 | 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. |
| R58 | Cad/Cam systems ( CEREC ). Knows how to master the different phases of this procedure and the materials that can be used with it. |
| R59 | Dental veneers. Knows the manufacturing procedures, types, indications and materials used. |
| R60 | Knows about bonded bridges, types and indications. |
| R61 | Knows about types of pontics and their importance. |
| R62 | Show ability to take measurements and materials for their application. |
| R63 | Carving on natural teeth in cups. Knows how to perform the different types of carving on incisors, canines, premolars and molars. |
| R64 | Takes measurements with silicones and polyether. Knows how to differentiate the types of material and their differences and advantages. |

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| R65 | Takes optical measurements with Cad/Cam system. Knows the differences with respect to conventional materials and their advantages and disadvantages. |
| R66 | Clinical cases. Knows how to solve real clinical cases and apply the knowledge of the subject. |
| R67 | Manages positional dental nomenclature systems. |
| R68 | Knows how to search for information from different sources and analyse it with a critical and constructive spirit. |
| R69 | Knows how to perform a complete oral examination, including the appropriate radiographic and complementary examination tests, as well as obtaining appropriate clinical references. |
| R70 | Manages therapeutic procedures based on the concept of minimally invasive and a comprehensive and integrated approach to oral health care. |
| R71 | Proves knowledge of aesthetic restorative materials. |
| R72 | Discerns the difficulties in the reconstruction of proximal faces and contact points : matrices and wedges. |
| R73 | Distinguishes the difficulties of color evaluation. Translucency and opacity. Surface reflection and visual effects. |
| R74 | Knows about direct and indirect composite restorations |
| R75 | Ceramics and aesthetics. CAD-CAM systems. |
| R76 | Knows about the relationship of aesthetic dentistry with other specialties. |
| R77 | 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. |
| R78 | Proves knowledge of the possibilities of aesthetic restoration with the materials and techniques usually used in reconstruction with fundamentally aesthetic objectives. |
| R79 | Knows the necessary steps for dental restoration with composite resins and dentin adhesives. |
| R80 | Knows the necessary steps for dental restoration with dental ceramics and dentin adhesives. |
| R81 | 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 a Capacity for analysis and synthesis | | x | | |
| CG2 I b Organizational 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 2 Knowing 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 2 Be 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 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 | | | |

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| 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. |
| | 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. |
| | 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 14 lab practicals. 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 wil not be able to assist the first sitting of the final exam and will 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 turn 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 of 5 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.
In this subject, the possibility of a single assessment is not considered, as the mandatory completion of practical activities with active student participation is required.

**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.<br>Problem Solving.<br>Explanation of contents by the teacher.<br>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.<br>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<br>M1 | R3 | 100,00 | 4,00 |
| SEMINAR<br>M3 | R3 | 5,00 | 0,20 |
| TUTORING<br>M4 | R3 | 5,00 | 0,20 |
| PRACTICAL CLASS<br>M3, M11 | R6, R8, R9, R11 | 30,00 | 1,20 |
| **TOTAL** | | **140,00** | **5,60** |

## LEARNING ACTIVITIES OF AUTONOMOUS WORK

| | LEARNING OUTCOMES | HOURS | ECTS |
|---|---|---|---|
| INDIVIDUAL WORK<br>M3, M8 | R46, R49, R52, R53 | 5,00 | 0,20 |
| GROUP WORK<br>M3, M10 | 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 |
|---|---|
| PROSTHESIS III | Fixed Prosthesis III<br>Introduction<br>Diagnosis related to fixed prosthesis<br>Treatment planning<br>Principles of tooth preparation<br>Complete cast crown<br>Gypsum products and dental waxes<br>Metal ceramc preps<br>All ceramic restorations<br>Indirect restorations<br>Inlays and onlays<br>Inlay and onlay try in and cementation<br>Restoration of endo treated teeth<br>Interim fixed restorations<br>BOPT technique<br>Luting agents and cementation procedures<br>Tissue management and Impression making<br>Colour replication process |

### Temporary organization of learning:

| Block of content | Number of sessions | Hours |
|---|---|---|
| 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 Restaurations , Magne P, Belser U. Quintessence Books 2008