1. BASIC DATA

Subject Title	Pediatric Dentistry II
Degree	Degree in Dentistry
School/Faculty	School of Biomedical and Health Sciences
Course	Third year
ECTS	6 ECTS
Character	Required
Language/s	English/ Spanish
Modality	Presential
Semester	Second semester
Academic year	2024/2025
Coordinating teacher	Fátima Cerdán Gómez
Teacher	Mercedes Morales Morillo

2. PRESENTATION

Pediatric Dentistry II is a subject of the third year of the degree in Dentistry that takes place in the second semester, with a value of 6 ECTS. This subject, compulsory within the degree, provides basic and specific training on the oral pathology of child patients and helps the student to acquire the theoretical knowledge and practical skills necessary for clinical diagnosis, development of treatment plans and clinical therapy before starting to practice with patients.

The subject respects a chronological order that allows the acquisition of increasingly complex knowledge in a progressive manner, in addition to the acquisition of manual dexterity that will be incorporated in traditional and advanced simulation. The planning of the Pediatric Dentistry curriculum clearly defines the general and specific competencies necessary to develop the different levels of learning in the subject. The course is taught in Spanish and English given the strong international character of the European University of Madrid, providing students with sufficient tools to achieve a level of knowledge that will allow them to develop their professional work internationally.

The ECTS of this course includes hours of work with the professor (lectures, preclinical practices in traditional simulation, preclinical practices in advanced simulation, preclinical practices in simulated hospital, seminars, directed work, exposition of such work and tutorials) and hours of autonomous work.

All this will allow the future graduate to acquire all the necessary knowledge to carry out a correct diagnosis, elaborate treatment plans and initiate in the therapy of children's patients outside the preclinical environment.

3. COMPETENCIES AND LEARNING OUTCOMES

Core competencies:

- CB3 That students have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant social, scientific or ethical issues.
- CB4 Students are able to convey information, ideas, problems and solutions to both specialized and non-specialized audiences.
- CB5 That students have developed those learning skills necessary to undertake further studies with a high degree of autonomy.

Cross-cutting competencies:

- CT1 Autonomous learning: A process that allows the individual to be the author of his or her own development, choosing the paths, strategies, tools and moments that he or she considers most effective for learning and putting into practice independently what he or she has learned. The autonomous learner, in short, selects the best strategies to achieve his or her learning objectives.
- CT3 Ability to adapt to new situations: Being able to work under different conditions, different people and in varied groups. It involves valuing and understanding different positions, adapting one's approach as the situation requires.
- CT4 Capacity for analysis and synthesis: Analysis is the method of reasoning that allows breaking down complex situations into their constituent parts; also evaluating other alternatives and perspectives to find optimal solutions. Synthesis seeks to reduce complexity in order to better understand it and/or solve problems.
- CT5 Ability to apply knowledge to practice: Ability to use the knowledge acquired in the academic environment in situations as close as possible to the reality of the profession for which they are being trained, for example, by relating theoretical foundations with their application to real problems of daily life, addressing problems and situations close to the professional activity or solving real issues and/or problems.
- CT7 Awareness of ethical values: Ability to think and act according to universal principles based on the value of the person that are aimed at their full development and that entails a commitment to certain social values.
- CT8 Information management: Ability to search for, select, analyze and integrate information from different sources.

Specific competencies:

- SC9 Know the clinical and laboratory diagnostic procedures and tests, know their reliability and diagnostic validity and be competent in the interpretation of their results.
- CE10 Recognize oral normality and pathology, as well as the evaluation of semiology data.
- CE11 Identify the main reason for consultation and the history of the current disease. Take a general medical history of the patient and a clinical record that accurately reflects the patient's records.
- CE12 Know the behavioral and communication sciences that facilitate dental practice.
- CE13 Handle, discriminate and select the appropriate materials and instruments in dentistry.
- CE14 Knowing dental biomaterials: their handling, properties, indications, allergies, biocompatibility, toxicity, waste disposal and environmental impact.
- CE16 Know and use the basic equipment and instrumentation for dental practice.
- CE18 Provide a comprehensive approach to oral care and apply the principles of health promotion and prevention of oral diseases.
- CE19. Educate and motivate patients on prevention of oral-dental diseases, control pathogenic oral habits, instruct them on proper oral hygiene, on dietary and nutritional measures and, in short, on all methods of maintaining oral health.

Learning outcomes:

- RA1: To know the technique and the most common materials for the operative treatment of caries in primary dentition.
- RA2: To know the diagnosis and treatment of pulp pathology in primary dentition and young permanent dentition.
- RA3: To know the diagnosis, prognosis and treatment of the different types of trauma in the pediatric patient, both in primary and permanent dentition.
- RA4: Acquire the basic knowledge necessary for the treatment of premature tooth loss in the primary dentition and space management.
- RA5. Take a complete and integrated medical history for each patient, together with a correct treatment plan.

The table below shows the relationship between the competencies developed in the course and the learning outcomes pursued:

Competencies	Learning outcomes
CB3, CB4, CB5, CT1, CT3, CT5, CT7, CT8, CE11, CE13	**RA1**: To know the technique and the most common materials for the operative treatment of caries in primary dentition.
CB3, CB4, CB5, CT1, CT3, CT4, CT5, CT7, CT8, CE27, CE9, CE10, CE11, CE12, CE13, CE14, CE16, CE18, CE19.	**RA2.** Know the diagnosis and treatment of pulp pathology in primary and young permanent dentition.
CB3, CT1, CT3, CT3, CT5, CT7, CT8, CE9, CE11, CE12, CE19,	**RA3.** Know the diagnosis, prognosis and treatment of the different types of trauma in the pediatric patient, both in primary and permanent dentition.
CB3, CB4, CT1, CT3, CT5, CE18, CE19	**RA4.** Acquire the basic knowledge necessary for the treatment of premature tooth loss in the primary dentition and space management.
CB3, CB4, CT4, CT5, CT7, CE10, CE11, CE12, CE19	**RA5.** Take a complete and integrated medical history for each patient, together with a correct treatment plan.

4. CONTENTS

The subject is organized into four learning units, which, in turn, are divided into topics (one, four or eight topics depending on the units:

Unit 1. Dental Surgery in Pediatric Dentistry

- 1.1. Filling of cavity preparations in the pediatric patient.
- 1.2 Diagnosis of pulp pathology in young primary and permanent teeth.
- 1.3 Pulp therapy in primary dentition
- 1.4 Pulp therapy in young permanent dentition
- 1.5 Treatment of large tooth destruction in the pediatric patient and use of crowns

Unit 2. Dental traumatology in children

- 2.1. Clinical history and Diagnosis of dental trauma in childhood
- 2.2. Trauma affecting dental hard tissues in primary and permanent dentition: coronary and radicular fractures.
- 2.3. Trauma affecting the dental support tissues in the primary and permanent dentition.

Unit 3. Arch integrity. Space control and management

- 3.1. Arch balance and premature loss of deciduous teeth
- 3.2. Tooth loss in infancy: use of space maintainers

Unit 4. Medical history

- 4.1. Concept. Systematic of work in the child patient and integration of knowledge acquired in previous topics.
- 4.2. Treatment plan and general considerations for its correct elaboration according to each clinical case.

5. TEACHING-LEARNING METHODOLOGIES

The following are the types of teaching-learning methodologies to be applied:

- Master class.
- Practical exercises.
- Case analysis.
- Cooperative learning.
- Seminars.
- Laboratory practices.
- Advanced simulation environments
- Simulated hospital

6. TRAINING ACTIVITIES

The types of training activities to be carried out and the student's dedication in hours to each of them are identified below:

Presential modality:

Training activity	Number of hours
Master Classes	20
Traditional laboratory practices	26
Advanced simulation environments (simodont + simulated hospital)	4
Practical exercises	4
Case analysis	8
Self-study and self-employment	65
Oral presentations	4
Seminars	2
Collaborative work	9
Tutoring	3
Knowledge test	5
TOTAL	**150**

7. EVALUATION

The following is a list of the evaluation systems, as well as their weight in the total grade of the course:

Presential modality:

Evaluation system	Weight
Knowledge test	30%
Laboratory practice/simulation environments	50%
Practical exercises/collaborative work/seminars/case analysis	20%

In the Virtual Campus, when you access the course, you will be able to consult in detail the evaluation activities to be performed, as well as the due dates and evaluation procedures for each of them.

In accordance with article 1, point 4 of the REGULATIONS FOR THE ASSESSMENT OF ACCREDITED UNDERGRADUATE DEGREES AT UNIVERSIDAD EUROPEA DE MADRID:

Students taking campus-based studies are required to demonstrate that they have attended at least 50% of their classes. Such attendance forms an essential part of the assessment process and is necessary to give the student the right to receive guidance, assistance and academic supervision from the professor. For such purposes, students must use the technological system put in place by the University to accredit their daily attendance at each of their classes. This system shall furthermore ensure that objective information is gathered regarding the active role of the student in the classroom. The failure to use the methods proposed by the University to demonstrate 50% attendance will give the professor the right to grade the course as a fail under the ordinary exam period. The foregoing does not affect other requirements of higher attendance percentages that each school may establish in their teaching guides or internal regulations.

Therefore, it is the authority of the professor that students who have not fulfilled the 50% of attendance in the ordinary call must pass all the evaluation tests in the extraordinary call, for which they must obtain a grade greater than or equal to 5.0 out of 10.0 in all of them (Faculty Board 11-07-23).

In accordance with article 6, point 12 of the REGULATIONS FOR THE ASSESSMENT OF ACCREDITED UNDERGRADUATE DEGREES AT UNIVERSIDAD EUROPEA DE MADRID:

Any student that uses or benefits from unlawful means during an evaluation test or that unduly attributes the author of the academic work required for the assessment will be graded as a “fail” (0) and may similarly be the object of a sanction, subject to the opening of disciplinary proceedings. In the case of the Final Graduation Project, the plagiarism or the lack of originality of the project, will automatically be graded as a “fail” (0) in the corresponding course in both ordinary and extraordinary periods. Likewise, the student will lose their status as a student during six months according with the General Standards for Graduation Projects and Master’s Thesis in its Article 5.

7.1. Ordinary call

In order to pass the course in the ordinary exam, you must obtain a grade higher or equal to 5.0 out of 10.0 in the final grade (weighted average) of the course. This grade will result from the sum of the grades obtained in each of the evaluation systems:

- **Knowledge test**: 30% of the final grade. This test may be a multiple-choice test, short questions, clinical cases or a combination of several of them.

- **Laboratory practice and advanced simulation**: It represents 50% of the final grade. Each of the activities performed in the laboratory in a traditional simulation environment have the same evaluation weight; however, the advanced simulation activities that include both the practice in the simodont and the immersive activity in the simulated hospital will have a lower weight in the evaluation. In such a way that the final practical grade represents 90% of the computation of the evaluated preclinical practices, the theoretical tests prior to the block and the final practical exam, and the remaining 10% corresponds to the grade obtained in advanced simulation. Of the simulation activities, only the simodont activity will be evaluable, since, although attendance to the simulated hospital is mandatory, it is not evaluable.
On the day of the final practical test, the student must hand in the provided typodont, unless he/she needs to recover the traditional simulation practices, which is a necessary condition to obtain the final grade of this block.

It is possible to make up a traditional preclinical simulation practice or a serious failure in ordinary exams. However, advanced simulation activities are not recoverable in any case due to a logistical problem. In case the student has more than two absences or serious failure, he/she will go directly to the follow-up period in the extraordinary call, without the possibility of recovering during the ordinary call.

- **Methodologies (cooperative learning, case analysis, problem-based learning and portfolios**). They represent 10% of the final grade. The activities corresponding to the methodologies section can be evaluated as long as the student passes the collaborative work and also 70% of the rest of the activities. 100% of these activities are face-to-face activities and will be evaluated when they are carried out in the classroom.
- The activity corresponding to the cooperative learning is equivalent to 100% of the final grade of the methodologies section and it is necessary the presence of the student whether he/she exposes or not, the non-attendance will suppose its recovery in extraordinary call.

It is essential to obtain in each of these three blocks a score that is greater than or equal to 5.0 out of 10.0 so that it can be averaged with the rest of the activities.

7.2. Extraordinary call

Following the guidelines of the evaluation in the ordinary exam, in order to pass the course in the extraordinary exam, the student must obtain a grade higher or equal to 5.0 out of 10.0 in the final grade (weighted average) of the course.

In any case, it will be necessary to obtain a grade higher or equal to 4.0 in the final test, so that it can be averaged with the rest of the activities.

The activities that were not passed in the ordinary exam must be handed in, after having received the corresponding corrections from the teacher, or those that were not handed in. It will not be enough to hand them in. The qualification of these methodologies or activities must obtain a grade equal or higher than 5.0; otherwise, they will not be able to make average with the rest of the course.

8. CHRONOGRAM

In this section you will find the chronogram with dates for the delivery of evaluable activities of the course:

Evaluable activities	Date
Activity 1. Laboratory practices	Week 2-17
Activity 2. Practical exercises	Week 3, 4, 7, 17
Activity 3. Collaborative work	Week 10-15
Activity 4. Seminars	Week 5,13
Activity 5. Simulation environments: simodont	Week 6-15
Activity 6. Simulation environments: simulated hospital	Week 6-15
Activity 7. Case analysis	Week 6-10,15-17
Activity 8. Knowledge test	Week 19

This schedule may be subject to modifications due to logistical reasons. Any modification will be notified to the student in due time and form.

9. BIBLIOGRAPHY .

The reference work for the follow-up of the subject is:

- Boj JR, Catalá M, García C, Mendoza A, Planells P. Pediatric dentistry: infants, children and adolescents. Mexico: Odontología Books; 2019.

The following is a recommended bibliography:

- Barber E. Atlas of pediatric dentistry for pediatricians and dentists. 2nd ed. Madrid: Ripano; 2014.
- Barbería E, Boj JR, Catalá M, García C, Mendoza A. Pediatric dentistry. 2nd ed. Barcelona: Masson; 2001.
- Bordoni N, Escobar A, Castillo Mercado R. Pediatric dentistry. Child and adolescent oral health in today's world. Madrid: Médica Panamericana; 2010.
- Cameron AC. Widmer RP. Manual of Pediatric Dentistry. Barcelona: Elsevier; 2010.
- Casamassino P, Fields H, McTigue D, Nowak A. Pediatric Dentistry. Infancy through adolescence. St. Louis: Elsevier; 2012.
- Cuenca E., Baca P. Preventive and Community Dentistry. Principles, methods and applications. Madrid: Elsevier Masson; 2013.
- Coelho S, Mitsue E. Pedciatric Restorative Dentistry. Switzerland: Springer; 2019.
- Dugal M, Cameron A, Toumba J. Paediatric Dentistry. Ed Wiley-Blackwell; 2013.
- Escobar F. Pediatric Dentistry. Madrid: Ripano; 2011.
- Figueiredo LR, Ferelle A, Issao M. Dentistry for the baby: Pediatric dentistry from birth to 3 years of age. Caracas: Actualidades Médico Odontológicas Latinoamérica; 200º.
- Graver thomas m., vanarsdall robert l., vig katherine wl. Current orthodontic principles and techniques. Elsevier/Mosby, 2006.
- Hs.duterloo. An Atlas of dentition in chilhood.Orthodontic diagnosis and panoramic radiology,London,Wolfe PublishingLtd,1991.
- Koch G. Pediatric Dentistry. Clinical approach. Ed Amolca; 2011.
- Linder V. Development of the dentition. Ed Quintessence Books; 2016
- Nelson SJ. Dental anatomy, physiology and occlusion. Madrid: Elsevier; 2015.
- Romero M. History of Spanish pediatric dentistry between 1400 and 1800. Zaragoza: Portico; 1994.

- Samara G, Celemín A, López MA. Historical evolution of pediatric dentistry in Spain during the period 980-1990. Odontol Pediatr. 2003; 11(1):4-9.
- Sanz J. History of school dentistry in Spain. Madrid: 2003.
- William r. proffit, henry w. fields, david m. sarver. contemporary orthodontics. elsevier/mosby, 2008.

10. DIVERSITY CARE UNIT

From the Educational Guidance and Diversity Unit (ODI) we offer support to our students throughout their university life to help them achieve their academic achievements. Other pillars of our action are the inclusion of students with specific educational support needs, universal accessibility in the different campuses of the university and equal opportunities.
This Unit offers students
1. Accompaniment and follow-up through counseling and personalized plans for students who need to improve their academic performance.
2. In terms of attention to diversity, non-significant curricular adjustments are made, i.e., at the level of methodology and evaluation, in those students with specific educational support needs, thus pursuing equal opportunities for all students.
3. We offer students different extracurricular training resources to develop different competencies that will enrich their personal and professional development.
4. Vocational guidance through the provision of tools and counseling to students with vocational doubts or who believe they have made a mistake in their choice of degree.

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11. SATISFACTION SURVEYS

Your opinion matters!

Universidad Europea encourages you to participate in satisfaction surveys to detect strengths and areas for improvement about the faculty, the degree program and the teaching-learning process.

Surveys will be available in the survey area of your virtual campus or through your e-mail.

Your assessment is necessary to improve the quality of the degree.

Thank you very much for your participation.