

1. BASIC INFORMATION

Course	Orthodontics IV
Degree program	Dentistry
School	Health Sciences
Year	3th
ECTS	3 ECTS/36h
Credit type	Compulsory
Language(s)	English. Spanish
Delivery mode	On-site classroom course
Semester	2 Semester
Academic year	2024/2025
Coordinating professor	Jesús Fernández Sánchez

2. PRESENTATION

Orthodontics IV. It is a mandatory course of 3 ECTS credits with the duration of one semester. After this last block of training in Orthodontics students will be able to identify and correct the different types of malocclusions.

It also provides essential background about indispensable diagnostic methods which stand behind patient's malocclusion treatments. Throughout the subject, the student develops required academic knowledge and practical skills to correctly interpret basic diagnostic methods.

The subject's timeline combines classroom activities with lab practical to allow inclusive knowledge and skills acquisition. It follows a chronological order that enables to gain progressive academic knowledge and ability.

Orthodontics' syllabus planification defines clearly core and specific competencies to develop the different learning levels of the subject. Lessons are given in English and Spanish due to the strong international nature of Universidad Europea de Madrid, providing the student enough tools to achieve a level of understanding to be able to develop professional international workload.

ECTS comprise class hours with the professor in classroom (master classes, tutorials, resolution of practical exercises) and work hours in a laboratory conducting preclinical practical, seminars and skill tests in a traditional simulation environment.

All this will enable the future graduate to acquire all indispensable knowledge to achieve correct diagnosis and orthodontic treatment planning, as well as to undertake subsequent subjects like Orthodontics I, II &

3. COMPETENCIES AND LEARNING OUTCOMES

Core competencies:

- CB1: That students have demonstrated possession and understanding of knowledge in an area of study that starts from the foundation of general secondary education, and is usually at a level that, while supported by advanced textbooks, also includes some aspects that involve knowledge from the cutting edge of their field of study.

- CB2: That students know how to apply their knowledge to their work or vocation in a professional manner and possess the competencies that are usually demonstrated through the development and defense of arguments and problem solving within their area of study.
- CB4: That students can transmit 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-curricular competencies:

- CT1 - Autonomous learning: a process that allows the person 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 their learning objectives.
- CT4 - Capacity for analysis and synthesis: Analysis is the method of reasoning that allows breaking down complex situations into their constituent parts; also to evaluate other alternatives and perspectives to find optimal solutions. Synthesis seeks to reduce complexity in order to better understand it and/or solve 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 commitment to certain social values.
- CT8 - Information management: Ability to search, select, analyze and integrate information from different sources.
- CT9 - Skills in interpersonal relationships: to relate positively with other people by verbal and non-verbal means through assertive communication, this being understood as the ability to express or convey what one wants, what one thinks or feels without discomfort, aggression or hurt feelings of the other person.

Specific competencies:

- CE9. 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 normality and oral pathology, as well as the evaluation of semiological data.
- SC13. Handle, discriminate and select the appropriate materials and instruments in dentistry.
- CE14. Know dental biomaterials: their handling, properties, indications, allergies, bio-compatibility, toxicity, waste disposal and environmental impact.
- CE16. Know and use basic equipment and instrumentation for dental practice.
- CE18. Provide a global 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 oral health maintenance.

Learning outcomes:

- RA2: Knowledge necessary for Orthodontic diagnosis: cephalometric study and facial analysis.
- RA3: To study vertical, horizontal, class I, II and III syndromes.
- RA5: To develop specific general competences for clinical activity in Orthodontics.
- The table below shows the relationship between the competencies developed in the course and the learning outcomes pursued:

The following table shows the relationship between the competencies developed during the course and the learning outcomes pursued:

Competencies	Learning outcomes
CB1, CB2, CB4, CB5, CT1, CT4, CT7, CT8, CT9, CG1,CG3,CG12, CG13, CG14, CG15, CG16, CG17,CG19, CG20, CG21, CG22, CG23, CG25, CG26, CG27, CG30, CE9, CE10,CE13	RA2
CB1, CB2, CB4, CB5, CT1, CT4, CT7, CT8, CT9, CG1,CG3,CG12, CG13, CG14, CG15, CG16, CG17,CG19, CG20, CG21, CG22, CG23, CG25, CG26, CG27, CG30, CE14, CE16, CE18, CE19	RA3, RA5

4. CONTENT

4.1 Theoretical content of the subject

Theme 1: Presentation of the Orthodontics IV course.

Theme 2: Types of crowding. The “primary dental crowding”. Different diagnosis and treatment.

Theme 3: Types of crowding. The “secondary dental crowding”. Different diagnosis and treatment.

Theme 4: The planning of a treatment of serial extractions in the child patient. Protocol and cephalometric approach.

Theme 5: Types of crowding. The “terciary dental crowding”. Different diagnosis and treatment.

Theme 6: Facial model of normal growth Model I. Cephalometric characteristics in this type of patients.

Theme 7: Facial Model of growth Model II and dental and malocclusive characteristics. Treatment with extrabuccal cervical and parietal appliances.

Theme 8: Diagnosis of skeletal alteration in patients with Model II with mandibular deficiency, identifying the different types of functional Class II correction devices.

Theme 9: Model III facial growth type and malocclusive form, facial and cephalometric characteristics.

Theme 10: Types of appliance used in the treatment of Model III. Facial mask and chin cup. Advantages, limitations and protocols of use.

Theme 11: “Long Face” Model: clinical precepts in the interceptive and corrective treatment of this type of malocclusion. 3

Theme 12: “Short Face” Model: functional treatment & fixed appliance.

Theme 13: Exam with short questions.

5. TEACHING-LEARNING METHODOLOGIES

The types of teaching-learning methodologies used are indicated below:

- Case.
- Master class.
- Problem-based learning (PBL)
- Simulation Environments

6. LEARNING ACTIVITIES

Listed below are the types of learning activities and the number of hours the student will spend on each one:

Campus-based mode:

Learning activity	Number of hours
Master class	18h
Case solving	8h
Tutorials	12h
Practical activities	25h
Autonomous work and learning	4h
Exams	8h
TOTAL	75h

7. ASSESSMENT

Listed below are the assessment systems used and the weight each one carries towards the final course grade:

Campus-based mode:

Assessment system	Weight
Exams	40% - 60%
Bibliographic presentacion	20% - 30%
Case solving	10% - 20%

When you access the course on the *Campus Virtual*, you'll find a description of the assessment activities you have to complete, as well as the delivery deadline and assessment procedure for each one.

7.1. First exam period

To pass the course in the first exam period, you must obtain a final course grade of at least 5 out of 10 (weighted average).

In any case, you will need to obtain a grade of at 5.0 in the final exam in order for it to count towards the final grade along with all the grades corresponding to the other activities.

7.2. Second exam period

To pass the course in the second exam period, you must obtain a final grade of at least 5 out of 10 (weighted average).

In any case, you will need to obtain a grade of at 5.0 in the final exam in order for it to count towards the final grade along with all the grades corresponding to the other activities.

The student must deliver the activities not successfully completed in the first exam period after having received the corresponding corrections from the professor, or those that were not delivered in the first place.

8. SCHEDULE

This table shows the delivery deadline for each assessable activity in the course:

Assessable activities	Deadline
Activity 1. Cephalometrics Seminar	Week 1
Activity 2. Photography and facial analysis	Week 3
Activity 3. Space analysis Seminar	Week 7
Activity 4. Occlusion Seminar	Week 10

This schedule may be subject to changes for logistical reasons relating to the activities. The student will be notified of any change as and when appropriate.

9. BIBLIOGRAPHY

The main reference work for this subject is:

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The recommended Bibliography is:

1. - J. Fernández y cols., "Manual de Prácticas de Odontopediatría, Ortodoncia y Odontología Preventiva", 1a ed., Madrid, Editorial Ripano, 2006. ISBN: 84-609-7414-6.
2. Fernandez Sanchez J. & Da Silva Filho O. Atlas de cefalometria y análisis facial. 2009, 290 p. ISBN-13 978-84-936756-7-7
3. J. A. Canut Brusola, "Ortodoncia Clínica y Terapéutica", 2a Edición. Barcelona. Massón. 2.000.
4. W. R. Proffit, "Ortodoncia Contemporánea: Teoría y Práctica". 4a Edición. Barcelona. Elsevier. 2008.
5. Thomas M. Graber, Thomas Rakosi, Alexandre G. Petrovic. Ortopedia dentofacial con aparatos funcionales Mosby, 1997. ISBN: 84-8174-331-3

10. EDUCATIONAL GUIDANCE AND DIVERSITY UNIT

From the Educational Guidance and Diversity Unit we offer support to our students throughout their university life to help them reach their academic achievements. Other main actions are the students inclusions with specific educational needs, universal accessibility on the different campuses of the university and equal opportunities.

From this unit we offer to our students:

1. Accompaniment and follow-up by means of counselling 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 in terms of methodology and assessment for those students with specific educational needs, pursuing an equal opportunities for all students.
3. We offer students different extracurricular resources to develop different competences that will encourage their personal and professional development.
4. Vocational guidance through the provision of tools and counselling to students with vocational doubts or who believe they have made a mistake in their choice of degree.

Students in need of educational support can write to us at:

orientacioneducativa@universidadeuropea.es

11. ONLINE SURVEYS

Your opinion matters!

The Universidad Europea encourages you to participate in several surveys which help identify the strengths and areas we need to improve regarding professors, degree programs and the teaching-learning process.

The surveys will be made available in the “surveys” section in virtual campus or via e-mail.

Your assessment is necessary for us to improve.

Thank you very much for your participation.