

1. BASIC INFORMATION

Course	ADVANCED DENTAL IMPLANTOLOGY
Degree program	Dentistry
School	Faculty of Biomedical and Health Sciences
Year	Fifth grade
ECTS	3 ECTS
Credit type	Elective
Language(s)	English
Delivery mode	HYBRID
Semester	Second semester
Academic year	2024/2025
Coordinating professor	Dr. Jaime Jiménez

2. PRESENTATION

The importance of the subject material within the study plan is obvious, given that we are going to train future dental experts who, regardless of their held of professional development, i.e., general, restorative, surgical, endodontics, pediatric dentistry, orthodontics, periodontics, prosthesis, cosmetic dentistry, etc., need to have a minimal basic knowledge of implantology as this type of treatment is commonplace and necessary within dentistry knowledge.

Implantology is an elective subject within the degree in dentistry. It is taught in the second semester of 5th year and is worth 3 ECTS credits.

The subject is organized into three Learning Units (L.U.s), which in turn are divided into learning resources.

3. COMPETENCIES AND LEARNING OUTCOMES

Core competencies:

- CB2: The students must know how to apply their knowledge to their work or vocation in a professional fashion and have the skills usually demonstrated by drafting and defending arguments and solving problems within their study area.
- CB4: Students must be able to convey information, ideas, problems, and solutions to both specialists and the general public.
- CB5: The students must have developed the learning skills needed to undertake subsequent studies with a high degree of autonomy.

Cross-curricular competencies:

- CT1 - Independent learning: A process that allows a person to be the driver of their own development, choosing the paths, strategies, tools, and times they consider most effective for

learning and independently putting into practice what they have learned. An independent student, in short, chooses the best strategies to reach his or her learning goals.

- CT2 – Self-confidence: Ability to assess our own results, performance, and capabilities with the internal conviction that we are capable of doing the things and challenges we are asked to do.
- CT4 - Ability to analyze and summarize: Analyzing is the method of reasoning that makes it possible to break complex situations down into their constituent parts and to assess other alternatives and perspectives to find the best solution. Summarizing seeks to reduce complexity in order to better understand and/or solve problems.
- CT5 - Ability to put knowledge into practice: Ability to use the knowledge acquired in the academic sphere in situations as similar as possible to the reality of the profession they are working toward, e.g., by relating theoretical foundations with their application to real problems in daily life; to approach problems and situations related to professional practice, and to solve real questions and/or problems.
- CT6 - Oral/written communication: Communication is the process by which we transmit and receive information, ideas, opinions, and attitudes to achieve understanding and action. Oral communication is performed through words and gestures, while written communication involves reading and/or graphic support.
- CT7 - Awareness of ethical values: Ability to think and act according to universal principles based on the value of the person targeted at their full development and which involve a commitment to certain societal values.
- CT8 - Information management: The ability to seek, select, analyze, and integrate information from different sources.
- CT10: Initiative and entrepreneurial spirit: Preference for assuming and carrying out activities. Ability to undertake difficult or hazardous actions with resolution.

Specific competencies:

- SC10: Recognising normality and oral pathology, as well as the evaluation of semiological data.
- SC13: Handle, discriminate and select the appropriate materials and instruments in dentistry.
- SC14: Knowing dental biomaterials: their handling, properties, indications, allergies, biocompatibility, toxicity, waste disposal and environmental impact.
- SC16: Knowing and using basic equipment and instrumentation for dental practice.
- SC20: Knowing the effects of tobacco on oral health and participating in measures to help patients who wish to stop smoking.

General competencies:

- CG3. Know how to identify patient concerns and expectations, as well as effectively and clearly communicate both orally and in writing with patients, family members, the media, and other professionals.
- CG4. Understand and recognize the social and psychological aspects relevant to patient treatment.
- CG7. To promote the independent learning of new knowledge and techniques, as well as motivation for quality.
- CG8. Know how to share information with other health professionals and work in a team.
- CG11. Understand and recognize the biomaterial sciences essential for the practice.
- CG12: Understand and recognize the structure and normal function of the stomatognathic apparatus, at the molecular, cellular, tissue and organic levels, in the different stages of life.
- CG13: Understand and recognize the sciences of essential biomaterials for dental practice as well as the immediate management of possible allergies to them.
- CG15: Be familiar with the general pathological characteristics of diseases and disorders that affect organic systems, specifically those that have an oral repercussion.
- CG18: Know, critically assess and know how to use the sources of clinical and biomedical information to obtain, organize, interpret and communicate scientific and health information.
- CG20: Obtain and elaborate a clinical history that contains all the relevant information.

- CG21: Knowing how to perform a complete oral examination, including appropriate radiographic and complementary examination tests, as well as obtaining adequate clinical references.
- CG25: 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 minimal invasion and on a global and integrated approach to oral treatment.

Learning outcomes:

- LO1: Acquire the basic knowledge needed to be able to make diagnoses and treatment plans in which the implants are an alternative in the rehabilitation of the partial and totally edentulous patient.
- LO2: Expand and improve knowledge in the field of dental implantology.
- LO3: Develop skills in the diagnosis of the candidate patient to be subjected to a dental implant treatment including the interpretation of clinical and radiological tests.
- LO4: Develop the training to adequately advise the patient that should be rehabilitated in the different alternatives of conventional removable prosthesis, removable on implants and fixed prostheses tooth supported and implant supported.
- LO5: Acquire competence in the exploration and detection of peri-implant pathology in the patient with dental implants.
- LO6: Increase knowledge about the types of dental implants, their indications and contraindications, the surgical technique, its results, maintenance and complications.
- LO7: Increase knowledge of implant treatment techniques in cases of atrophic maxillae and on the incidence and treatment of peri-implant complications.
- LO8: Know the different types of prosthetic rehabilitations on implants with their indications, results and complications.

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

Competencies	Learning outcomes
CB2, CB4, CT4, CT7, CT8, CG3, CG4, CG12, CG13, CG15, CG18 CG 20, CG 21	LO1
CB5, CT1, CT2, CT4, CT5, CT8, CT10, CT7, CG8, CG12, CG13, CG18.	LO2
CB2, CB5, CT1, CT2, CT4, CT5, CT10, CG4, CG8, CG12, CG12, CG15, CG18, CG 20, CG21	LO3
CB4, CT6, CG3.	LO4
CB2, CB4, CT4, CT5, CT10, CG7, CG8, CG12, CG13, CG15, CG20, CG21.	LO5
CB2, CB4, CB5, CT1, CT2, CT4, CT5, CT8, CT10, CG7, CG8, CG12, CG13, CG15, CG18, CG25	LO6
CB2, CB4, CB5, CT1, CT2, CT4, CT5, CT8, CT10, CG7, CG8, CG12, CG13, CG15, CG18, CG25	LO7
CB2, CB4, CB5, CT1, CT2, CT4, CT5, CT8, CT10, CG7, CG8, CG12, CG13, CG15, CG18, CG25	LO8

4. CONTENT

LU1:

- Topic 1. Concept of dental implant. Historical background.
- Topic 2. Biology of osseointegration. Characteristics of peri-implant tissues.
- Topic 3. Systems and types of implants currently in force.
- Topic 4. Treatment planning. Indications. Absolute, relative and temporary contraindications.
- Topic 5. Treatment planning. Radiological diagnosis
- Topic 6. Treatment planning. Determination of the position, angulation and number of osseointegrated implants required.
- Topic 7. Anatomical considerations in implant surgery.
- Topic 8. Premedication, sedation, anesthesia and postoperative medication in the patient undergoing treatment with implants.
- Topic 9. Surgical act.
- Topic 10. Intraoperative and postoperative complications.
- Topic 11. Surgery of placement of healing abutments or second stage surgery.

LU2:

- Topic 12. Implants in atrophic jaws.
- Topic 14. Immediate implants postextraction.
- Topic 15. Immediate loading implants.
- Topic 16. Maintenance and revisions in patients rehabilitated with implants.

LU3:

- Topic 17. Biomechanics in implantology
- Topic 18. Rehabilitation in the previous sector. Aesthetic considerations
- Topic 19. Unit crowns and partial bridges in the posterior sector
- Topic 20. Overdentures
- Topic 21. Complete implant supported restorations
- Topic 22. Immediate loading prosthesis

5. TEACHING-LEARNING METHODOLOGIES

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

- Master Class
- Case Method
- 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 Classes	21

Mentoring	5
Knowledge Tests	2.5
TOTAL	28.5

Online mode:

Learning activity	Number of hours
Asynchronous virtual master classes	5
Study and self-work	28
Case Analysis	2.5
Case Studies	11
TOTAL	46.5

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
Practical Exercises	30%
Knowledge tests	40%

Online mode:

Assessment system	Weight
Case Analysis	30%

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.

You must complete the activities requested by the professor, scoring a weighted average grade of 5 or more overall, and also achieve a grade of 5 or more in the knowledge test.

The assessable activities and their relative weight in the final assessment of the subject may be subject to changes, of which you would be informed with sufficient time by the professor in the General Forum of the subject.

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 . individual activity. Clinical performance for different conditions	Week 5-6
Presential Class: Study of a surgical cassette	From week 1 to 6
Activity 2. Group activity: Case analysis	Week 11-12
Presential Class: Placing implants with the 3i brand. Implant placement in practice	From week 7 to 12
Activity 3. Individual activity: Drilling in implants	Week 17-18
Classroom session: query settlement and subject summary	From week 13 to 18

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.

The subject is structured into 3 Learning Units; for each one you will cover the topics listed in the previous section, studying each one in depth. You will also carry out Applicable Activities integral to each Unit, and as you progress you will attend an online Seminar.

To see a detailed description of the objective, purpose, method of delivery and evaluation for each of the Applicable Activities, click on the activity within the corresponding Learning Unit.

The submission date for each one of the Applicable Activities and the dates on which the online Seminars

are held will be shown in the subject's calendar. If there are any changes made to these dates you will be notified by the professor with enough time in the General Forum and they will be modified on the calendar.

Likewise, you will be informed with enough time of the date and location of the campus-based seminars by the lecturer.

9. BIBLIOGRAPHY

The recommended Bibliography is:

- Jiménez López. (2014). Ajuste Oclusal en Implantes y dientes naturales: Oclusion en 3D. Ed: Quintessence.
- Hubertusspiekermann (1995). Atlas de implantología. Ed: Masson.
- Carl. E Misch. (2009). Implantología contemporánea. Ed: Elseviermosby.
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- Block. (2002). Atlas en color de cirugía implantológica dental. Ed: Panamericana.
- Netter, F.H. (2011). Atlas de anatomía humana. Ed: Masson.
- Gaudy, J.F. (2008). Atlas de anatomía implantologica. Ed: Masson.

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.