

1. BASIC INFORMATION

Course	Documentation and Introduction to the Methodology of Research in Dentistry
Degree program	Degree in Dentistry
School	Faculty of Health Sciences
Year	First Year
ECTS	3 ECTS (75 h)
Credit type	Mandatory
Language(s)	English
Delivery mode	Face-to-Face
Semester	First semester
Academic year	2024-2025
Coordinating professor	Daniel López Malo

2. PRESENTATION

Dentistry, as a profession within the Biomedical Sciences, requires the training of individuals not only with specific knowledge related to the performance of their work, but also towards scientific research. The subject "Documentation and Introduction to the Methodology of Research in Dentistry" initiates the future dentist in the knowledge of the resources that allows them to actively participate in research projects. Therefore, the future professional will be able to share with the scientific community its results, as well as to improve and to keep up with the latest techniques and research results applicable to its future activity, relying on reliable and evidence-based sources of information.

This subject introduces the student in the scientific method and in the search for information. Students will be provided with theoretical and methodological knowledge that allows them to reflect on the reality of their practice, gain scientific knowledge and apply it in order to improve their professional performance.

Emphasis will be placed on the student's achievement of the fundamental skills needed to search for, analyze and use research evidence in practice. Therefore, students will develop skills for critical reading of literature, with the aim of asking relevant research questions.

3. COMPETENCIES AND LEARNING OUTCOMES

Core competencies:

- BC2: That students know how to apply their knowledge to their work or vocation in a professional way and possess the skills that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study.
- BC3: That students can gather and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant topics of a social, scientific or ethical nature.
- BC4: That students can transmit information, ideas, problems and solutions to both a specialized and non-specialized audience.
- BC5: That students have developed the learning skills necessary to undertake subsequent studies with a high degree of autonomy.

Cross-curricular competencies:

- CC1: Responsibility. That the student can assume the consequences of the actions he performs and respond to their own actions.
- CC4: Communicative skills. That the student can express concepts and ideas effectively, including the ability to communicate in writing with conciseness and clarity, as well as speak in public effectively.
- CC5: Interpersonal understanding. That the student can make an active listening in order to reach agreements using an assertive communication style.
- CC7: Teamwork. That the student can participate actively in achieving a common goal, listening, respecting and creating the ideas and proposals of the rest of his team members.
- CC9: Planning. That the student can effectively determine their goals and priorities by defining the actions, deadlines, and optimal resources required to achieve such goals.

General competencies:

- GC1: Know the essential elements of the dentist profession, including ethical principles and legal responsibilities.
- GC3: Ability to identify patient concerns and expectations, as well as communicate effectively and clearly, both orally and in writing, with patients, family members, the media and other professionals
- GC8: Ability to know how to share information with other healthcare professionals and work as a team.
- GC9: Ability to understand the importance of maintaining and using records with patient information for further analysis, preserving data confidentiality.
- GC18: Knowledge to critically assess and know how to use sources of clinical and biomedical information to obtain, organize, interpret and communicate scientific and health information
- GC19: Knowledge of the scientific method and have critical ability to assess established knowledge and novel information. Being able to formulate hypotheses, collect and critically assess problem-solving information, following the scientific method.

Specific competencies:

- SC3: Know the scientific method and have critical ability to assess established knowledge and novel information.

Learning outcomes:

- LO1: Develop an interest in research in health sciences and create a habit in the management of scientific publications and the critical sense necessary for the understanding and evaluation of published epidemiological studies.
- LO2: Develop research skills, both primary and secondary. Generate bibliographic review skills and referencing habits (Vancouver style).
- LO3: Know different ethical aspects related to scientific publication.

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

Competencies	Learning outcomes
BC2, BC3, BC4, CC1, CC4, CC5, CC7, CC9, GC3, GC8, GC18, GC19	LO1: Develop an interest in research in health sciences and create a habit in the management of scientific publications and the critical sense necessary for the understanding and evaluation of published epidemiological studies.
BC2, BC3, BC4, CC1, CC4, CC5, CC7, CC9, GC3, GC8, GC18, GC19	LO2: Develop research skills, both primary and secondary. Generate bibliographic review skills and referencing habits (Vancouver style).
BC3, CC1, GC1, GC9	LO3: Know different ethical aspects related to scientific publication.

4. CONTENT

Introduction. General considerations. Research. The scientific method.

Learning Unit 1: Scientific Documentation.

- 1. Appropriate sources of information.**
Age of Information. Primary and secondary sources. Academic and informative publications. Search for information on the Internet.
- 2. Databases related to Health Sciences.**
Scientific journals. Impact factor. *h* Index. Web of Science. PubMed.
- 3. Academic honesty.**
Integrity in the investigation. Scientific fraud. Principles of honesty. Quotes and references.

Learning Unit 2: The scientific method.

- 4. Scientific research**
The concept of research. Research question. Study design. Types of studies.
- 5. The Scientific Method.**
General considerations. Stages of the research. Formulation of a question. Data collection. Hypothesis checking. Obtaining conclusions. Serendipity.

Learning Unit 3: Scientific publications.

- 6. Types of scientific publications.**
Scientific literature. Scientific articles. Review of literature. Examples.
- 7. The scientific article.**

General considerations. Introduction. Methodology. Results and discussion. Conclusions. Title and *abstract*. Other sections. The publishing process.

8. Bioethics.

Ethical aspects related to scientific publication and research. Informed consent. Bioethical aspects of research.

5. TEACHING-LEARNING METHODOLOGIES

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

- Masterclass
- Case Study Method
- Cooperative Learning
- Problem-Based Learning (PBL)
- Project-Based Learning

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
Tutorials	9 h
Master Classes	10 h
Virtual Master Classes	2 h
Critical analysis of scientific articles	6 h
Problem solving	12 h
Practical exercises	6 h
Case analysis	7 h
Study and autonomous work	21 h
Face-to-face knowledge tests	2 h
TOTAL	75 h

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
Knowledge test	50%
Cases/problems	25%
Practical exercises	25%

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.

- **Knowledge test:** 30 – 60 test questions, of which the correct ones will be worth 1 point, the wrong ones will subtract 0.33 points and the unanswered questions will not count; and a short question/problem. The student's reasoning ability will be evaluated.
- **Cases/Problems:** Tasks 1 – 4 Tasks 1 - 4 will account for 12.5% of the block and tasks 5 and 6 the remaining 12.5%. Some of these tasks will be done in Spanish.

Within the **practical exercises**, a percentage of 20% is determined to the elaboration of the activities, as well as 5% to the evaluation questionnaires corresponding to the **Digital Resources of the Teaching** of the subject.

7.1. First exam period

To pass the course in the first exam period, you must obtain a grade greater than 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 greater than or equal to 5.0, independently, in each of the evaluation systems that make up the course (including the knowledge tests segregated in partial). It may be assessed that the tests of knowledge segregated in partial weighted average from a grade equal to or greater than 4.

The Universidad Europea de Valencia establishes continuous assessment as a system of evaluation of knowledge, skills and basic, general, transversal and specific competences of the degree in Dentistry, in accordance with the provisions of the Regulations for the evaluation of undergraduate degrees. In this regard and for the purposes of the consumption of calls the student should be aware that, if any evaluation system provided in the Learning Guide, in the ordinary call the student will have an overall grade of the subject, thus consuming call.

According to the aforementioned Regulations, students taking face-to-face degree courses are required to **justify at least 50% of class attendance**, as a necessary part of the evaluation process and in the case of **theoretical or practical classes determined as mandatory by the teacher in the schedules of the subject, the student must register an attendance of 90%**, whether the absence is justified or not. The lack of accreditation by the means proposed by the University will entitle the professor to grade the **subject as failed in the ordinary call**, according to the grading system.

Punctuality will be required, **3 delays of more than 15 minutes or departures before class will be counted as a lack of attendance.**

The student must consult in the schedule of the course in the Virtual Campus the sessions of compulsory attendance in the classroom.

The mention of "**Matrícula de Honor**" will be awarded to students who have obtained a **grade equal to or higher than 9.0**. Their number **may not exceed 5% of the students enrolled in each subject** in the corresponding academic year, unless the number of students enrolled is less than 20, in which case only one honorary registration may be awarded.

Activities will be delivered using the virtual platform before the deadline. Any work or activity delivered later than that date and/or that does not meet the required characteristics (in general, other than a .pdf, .doc, .docx, .ppt or .pptx file) **may be graded with 0 points.**

7.2. Second exam period

To pass the course in the second exam period, you 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 greater than or equal to 5.0 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.

The Universidad Europea de Valencia establishes the continuous evaluation as a system of assessment of knowledge, skills and basic, general, transversal and specific competences of the degree in Dentistry, in accordance with the provisions of the Regulations for the evaluation of undergraduate degrees. In this regard and for the purposes of the consumption of calls the student should be aware that in the extraordinary call will be the **Objective Test of Knowledge (POC)** which **determines whether or not to consume call** and in the exceptional case that only has pending to overcome evaluation system /s that are not the POC, will be considered NP if not presented and will obtain a numerical grade if you present at least one of them.

Pursuant to the aforementioned Regulations, students taking face-to-face degree courses are required **to justify at least 50% of class attendance**, as a necessary part of the evaluation process, and in the case of **theoretical or practical classes determined as mandatory by the teacher in the schedules of the subject, the student must register an attendance of 90%, whether the absence is justified or not.** Those students who, due to **non-compliance with this requirement, must appear in the extraordinary call**, must perform as many activities or knowledge tests determined by the teacher to recover this part and its corresponding overcoming based on the specified rubric.

8. SCHEDULE

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

Assessable activities	Deadline
Cases/Problems: Task 1: ESSAY	Week 2
Cases/Problems: Task 2: ETHICAL CASE IN PROFESSIONAL DEVELOPMENT AND DENTAL PRACTICE	Week 4
Cases/Problems: Task 3: PSEUDOSCIENCES	Week 6
Cases/Problems: Task 4: PICO QUESTIONS	Week 8
Cases/Problems: Task 5: LITERATURE SEARCH - REVIEW I	Week 9
Cases/Problems: Task 6: REVIEW II	Week 14
Practical Exercises	Throughout the course
Evaluation test	January, ordinary call

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 student must consult the mandatory face-to-face sessions in the classroom in the course schedule on the Virtual Campus.**

9. BIBLIOGRAPHY

The main reference work for this subject is:

- LAKATOS, I. (2006). **The methodology of scientific research programs**. Madrid: Alliance.
- LAAKE, P. (2015). **Research in Medical and Biological Sciences: From Planning and Preparation to Grant Application and Publication**. Amsterdam; Boston: Elsevier/Academic Press.
- MARCZYK, G.R. (2005). **Essentials of Research Design and Methodology**. Hoboken, N.J: John Wiley & Sons.
- GREENHALGH, T. (2019). **How to read a paper: the basics of evidence-based medicine and healthcare**. Hoboken, NJ: John Wilen & Sons Ltd. 6th edition.
- D. De Vaus (2012). **Research design in social research**. London: SAGE. 2nd edition.

The recommended Bibliography is:

- PEARS, R. (2019). **Cite Them Right: The Essential Referencing Guide**. New York: Palgrave Macmillan. 11th Edition.

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.uev@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.