

29316 - Bio-materials for Odontology and Ergonomics

Syllabus Information

Academic year: 2023/24

Subject: 29316 - Bio-materials for Odontology and Ergonomics

Faculty / School: 229 - Facultad de Ciencias de la Salud y del Deporte

Degree: 442 - Degree in Odontology

ECTS: 6.0

Year: 2

Semester: First semester

Subject type: Compulsory

Module:

1. General information

The subject aims to provide students with an understanding of the fundamental concepts related to the main properties of dental materials, selecting and learning to manipulate those most commonly used.

They should also become familiar with the basic instruments used in therapeutic procedures and with the sterilization and disinfection procedures for the maintenance of a safe environment in the dental clinic, learning how to optimize diagnostic and therapeutic procedures from an ergonomic perspective. These approaches are aligned with the Sustainable Development Goals (SDGs) of the United Nations 2030 Agenda, at specifically, the planned learning activities will contribute to the achievement of Goal 3, Health and Well-Being (<https://www.un.org/sustainabledevelopment/es/>). Basic knowledge of chemistry, physics and English is recommended, as well as computer skills.

2. Learning results

- Identifies and recognizes dental materials and biomaterials with appropriate accuracy and terminology.
- Understands and differentiates the properties of dental materials and biomaterials that are important in clinical application.
- Properly handles biomaterials according to the dental procedure to be performed.
- Understands, differentiates and applies the concepts of Ergonomics and the principles of occupational risk prevention in the practice of dentistry.
- Knows the characteristics and differentiates dental instruments, devices and equipment and exemplifies their clinical application

Based on the above structure, a teaching guide has been designed in which the contents and competencies are directly related to the learning results of each thematic unit.

3. Syllabus

DENTAL BIOMATERIALS

1. Classification and properties of dental materials. Biocompatibility.
2. Direct restoration materials.
3. Indirect restoration materials.
4. Prosthesis fabrication.
5. Preventive materials.
6. Dental implants and biomaterials for tissue regeneration.
7. Emerging technologies.

ERGONOMICS

1. General aspects of ergonomics: the dental clinic and the dental unit.
2. General instrumentation in dentistry.
3. Care, maintenance and handling of the dental unit and instruments.
4. Teamwork in dentistry. Time system in positional control.
5. Four-handed dentistry.
6. The musculoskeletal system and cumulative traumatic disorders.

The theoretical program will be complemented with practical laboratory and clinical sessions.

4. Academic activities

Participative master classes: 24 hours.

The teaching material will be provided to the students in advance through the ADD.

Problem solving and case studies: 13.5 hours.

Case resolution sessions in the form of theoretical-practical workshops to deepen thematic areas of special interest.

Laboratory practices: 22.5 hours.

With mandatory attendance, they include the presentation of a portfolio of practices.

Study hours: 88 hours

Assessment tests. 2 hours

Group and individual work: To reinforce autonomous learning through monographic work in groups (or voluntary individual) within a reciprocal teaching methodology.

Tutoring: Face-to-face and non-face-to-face (telematically via e-mail or ADD).

5. Assessment system

1. Mixed system

- Theoretical part (60%)

Theoretical knowledge test (2 tests per semester): 40 multiple-choice questions with 5 items and only 1 correct answer with a value of 0.25 each (a minimum of 5 points is required to pass). Both tests must be passed separately.

- Practical part (40%).

The grade for this section is distributed as follows:

- 15% attendance to the practices (completion of exercises, active participation in sessions and seminars); - 15% evaluation of the practices portfolio.

- 10% co-evaluation of the group work by means of a rubric.

In order to pass the subject it will be necessary to have passed the theoretical and practical parts separately.

2. Simple system

In case of non-attendance to class and more than 3 practical classes:

- Theoretical part (50%): Final comprehensive examination. It will consist of 40 multiple-choice questions with 5 items with only 1 correct answer with a value of 0.25 each (a minimum of 5 points out of 10 is required to pass).

- Final practical exam of the whole subject (50%).

It is necessary to pass the two blocks separately in order to make an average (5 will be considered a passing grade).

3. Voluntary individual written work

The final grade may be increased by up to 1 point, provided that the previous sections are passed separately.