Universidad Zaragoza

Academic Year/course: 2021/22

29304 - Oral Microbiology

Syllabus Information

Academic Year: 2021/22
Subject: 29304 - Oral Microbiology
Faculty / School: 229 - Facultad de Ciencias de la Salud y del Deporte
Degree: 442 - Degree in Odontology
ECTS: 6.0
Year: 1
Semester: Second semester
Subject Type: Basic Education
Module:

1. General information

2. Learning goals

3. Assessment (1st and 2nd call)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The methodology followed in this course is oriented towards the achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as lectures, problem-solving, laboratory sessions, and autonomous work and studying.

4.2. Learning tasks

This course is organized as follows:

- **Lectures**. 30 lessons. The lectures will take place in classroom planned for this purpose and the content is distributed in the following blocks:
    - Introduction to Oral Microbiology. Overview of microorganisms
    - Etiologic agents of oropharyngeal infections
    - Dental microbiology
- **Problem-solving**. 10 hours of problems and cases in sessions of approximately 2 hours. In these practices, students, working in groups or individually, resolve issues related to the agenda of the course.
- **Laboratory practice**. 20 hours of laboratory practice. Will take place in the Microbiology Laboratory, in 3 groups of students. These practices consist of:
    - Preparation of culture media.
    - Staining and observation of microorganisms.
    - Identification of microorganisms. biochemical tests.
    - Study of antimicrobial susceptibility testing.
- **Portfolio** (14 hours). Students, individually or in groups, develop a paper on a topic related to the course (portfolio). Tutored by the teacher.

4.3. Syllabus

This course will address the following topics:

- 1. Introduction to Microbiology.

PART I: OVERVIEW OF MICROORGANISMS

- 2. Methodology, morphological observation, and study of the utilization of microorganisms.
- 3. Morphology of bacteria.
- 4. Bacterial physiology. Metabolism.
- 5. Bacterial genetics.
- 6 Control of bacterial growth.
- 7. Antimicrobials.
- 8. Guest-parasite relation.
- 9. General characteristics of the immune response.
- 10. Microbiological diagnosis.
- 11. Epidemiology and prophylaxis.
- 12. General characteristics of the virus.
- 13. General characteristics of fungi.
- 14. General characteristics of parasites.
- 15. Laboratory diagnosis of infectious diseases.

PART II: INFECTIONS

- 16. Staphylococcus.
- 17 Streptococcus.
- 18. Anaerobic bacteria I.
- 19. Anaerobic bacteria II.
- 20. Gram-positive facultative anaerobes of oral interest.
- 21. Gram-negative facultative anaerobes of oral interest.
- 22. Acid-fast bacteria.
- 23. Spirochetes.
- 24. Candida and other fungi of dental interest.
- 25. Human parasitosis. Parasites of dental interest.
- 26. RNA virus of oral interest.
- 27. DNA virus of oral interest.
- 28. Hepatitis.
- 29. HIV.

PART III: DENTAL MICROBIOLOGY

- 30. Composition and ecology of the oral microbial flora.
- 31. Microbiology of dental plaque.
- 32. Microbiology of tooth decay.
- 33. Periodontal and peri-implant microbiology.
- 34 Systemic implications of oral infections.

4.4. Course planning and calendar

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course will be provided on the first day of class or please refer to the Faculty of Health and Sports Sciences website and Moodle.

4.5. Bibliography and recommended resources

To consult the bibliography and recommended resources, you must access the *Recommended Bibliography* link.