

## 1. BASIC INFORMATION

Course/Module	General Microbiology and Immunology
Degree Program	Degree in Dentistry
College/School	Facultad de Ciencias Biomédicas y Deporte
Year	1st
Credits (ECTS)	6 ECTS
Credit type	Basic
Language(s)	English and Spanish
Delivery mode	On campus
Semester	S2
Academic year	2025-2026
Coordinating professor	

## 2. PRESENTATION OF THE COURSE

The general objective of this course is the learning of the main mechanisms and components of our immune system and the acquisition of basic knowledge of Microbiology.

The aim of this course is to provide the knowledge of the main microorganisms and their role in the most frequent infectious diseases in humans, taking special attention in those related to the oral cavity. Likewise, the knowledge and skills acquired in the theoretical and practical part of the course will provide the student with the necessary basis to understand the mechanisms of action of antimicrobials.

In addition, the student is expected to master the concepts with a microscopic approach and to be aware of the importance of preventive measures in the development of infectious diseases.

## 3. LEARNING OUTCOMES

### Knowledge:

CON05. Promote autonomous learning of new knowledge and techniques, as well as motivation for quality.

- Describe the sampling techniques and transport systems used in dentistry.
- Describe the main procedures and techniques carried out in clinical microbiology laboratories.

CON11. Knowledge of general disease processes and their treatment, including infection, inflammation, immune system disorders, degeneration, neoplasia, metabolic disorders and genetic disorders.

- Cite the structure, metabolism and genetics of micro-organisms: major bacteria, fungi, parasites and viruses.
- List the main antimicrobials, their mechanisms of action and general resistance mechanisms.

- Describe the immune response, general immunity and specific immunity.
- Identify the microbiology of oral infections and their systemic repercussions.

**Competences:**

CP03. Know the biomedical sciences on which dentistry is based to ensure correct oral and dental care. Among these sciences have to include appropriate content in Microbiology and Immunology.

CP70. Cooperate with others in the pursuit of a shared academic or professional goal, participating actively, empathetically and with active listening and respect for all members.

## 4. CONTENTS

The contents of the course/module are listed below:

- Bacteria, fungi, parasites and viruses: structure, metabolism and genetics.
- Antimicrobials.
- Microbiology and general immunology. The immune response. General and specific immunity. Antigens and antibodies.
- Oral microbiology: oral ecology. Bacterial plaque: periodontal and cariogenic.
- Dental sampling and transport.
- Procedures and techniques used in clinical microbiology laboratories.

## 5. TEACHING-LEARNING METHODOLOGIES

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

- Lecture.
- Case method.
- Problem-based learning.
- Learning based on workshop teaching.

## 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
Lectures	40
Practical seminars	5
Case studies	10
Problem scenario	10
Report writing	7

Workshops/lab work	10
Independent working	60
In-person assessment tests	2
Academic advising	6
<b>TOTAL</b>	<b>150</b>

## 7. CONTINUOUS ASSESSMENT

Each assessable learning activity represents an opportunity for the student to make progress, receive feedback, and consolidate knowledge, skills, and competences. The Learning Outcomes outlined in this guide provide direction for this process and serve as benchmarks for their achievement.

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

### Campus-based mode:

Assessment system	Weight (%)
In-person assessment tests	50-60%
Written reports	5-15%
Case study/problem scenario	10-30%
Performance assessment	10-20%

In the Virtual Campus, when you access the corresponding course/module you will find information regarding the evaluation systems, including the due dates and the procedures applicable to each of them.

### 7.1. First exam period

In order to pass the course/module in the ordinary call, the student must obtain a grade greater than or equal to 5.0 (out of 10), in all the evaluation systems proposed in this guide. The final grade will be calculated from the weighted average of all the evaluation systems described.

If in any of the evaluation systems proposed in this guide, a grade lower than 5.0 (out of 10) is obtained, the final grade of the course/module will be “fail” even if, in the result of the weighted average, a value higher than 5.0 (out of 10) is obtained. In the latter case, the course/module would still be “failed” obtaining a final grade of 4.0 (out of 10).

#### *Delivery of activities*

Compliance with deadlines is essential to ensure the fairness and planning of the training process.

In case of not submitting an evaluable formative activity in due time and form, and without prior justification, it will not be evaluated and, therefore, will be recorded as “not submitted”.

The student is encouraged to communicate with sufficient time in advance to the teacher of the course/module, any difficulty that may affect their participation in any activity.

### *Attendance*

Active participation in the training sessions is a key component of learning. In order to pass the course/module, at least 50% attendance is required. If this minimum percentage is not reached, the teacher may consider the course/module as “failed”, according to the evaluation regulations of the Universidad Europea de Andalucía.

## **7.2. Second exam period**

The extraordinary exam offers a new opportunity for students to demonstrate their learning. To pass it, it will be necessary to obtain a final grade (weighted average) equal to or higher than 5.0 (out of 10.0).

### *Delivery of activities*

The student must submit and pass those mandatory training activities not delivered or not passed in the ordinary call, respecting the new deadlines established. In case of failure to comply with these new deadlines, the activity will not be evaluated and, therefore, will be recorded as “not presented”.

## **8. SCHEDULE**

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

Evaluable training activities	Date
In-person assessment tests	April, June 2026
Written reports	May 2026
Case study/problem scenario	April-May 2026
Performance assessment	June 2026

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. REFERENCES**

Recommended references are listed below:

- Murray PR, Rosenthal KS, Pfaller MA. 2016. *Medical microbiology* (8th edition). Elsevier Saunders.
- Murray PR, Rosenthal S, Pfaller A. 2017. *Microbiología médica* (8ª edición). Elsevier.
- Willey JM, Sherwood L, Woolverton CJ, Prescott LM. 2014. *Prescott's microbiology* (9th edition). Editorial McGraw-Hill.
- Prescott LM, Harley JP, Klein DA, Gamazo de la Rasilla C, Lasa Uzcudum Í. 2004. *Microbiología* (2ª edición). Editorial McGraw-Hill Interamericana de España.

- Rosa Fraile Mdl, Prieto Prieto J. 2011. *Microbiología en ciencias de la salud: conceptos y aplicaciones* (3ª edición). Editorial Elsevier.
- Roitt IM, Delves PJ, Rondon S, Tzal K. 2008. *Inmunología: fundamentos* (10ª edición). Editorial Médica Panamericana.
- Bauman RW. 2012. *Microbiology with Diseases by Body System* (3rd edition). Benjamin Cummings.
- Cowan MK. 2012. *Microbiology: a systems approach* (3rd edition). Editorial McGraw-Hill.
- Negroni M. 2009. *Microbiología estomatológica, fundamentos y guía práctica* (2ª edición). Editorial Médica Panamericana.
- Liébana J. 2002. *Microbiología oral* (2ª edición). Editorial Interamericana-McGraw-Hill.
- Marsh PD, Martin MV, Lewis MAO, Pérez Guillén F. 2011. *Microbiología Oral* (5ª edición). Editorial Amolca.
- Samaranyake LP. 2012. *Essential microbiology for dentistry* (4th edition). Churchill Livingstone Elsevier.
- Bagg J, Bagg S. 2006. *Essentials of microbiology for dental students* (2nd edition). Oxford University Press.

## 10. AREA OF GUIDANCE, DIVERSITY AND INCLUSION

The Area of Guidance, Diversity and Inclusion (ODI) offers support to students throughout their university career, with the aim of facilitating their academic and personal development and supporting them in achieving their goals. This Area focuses its work on three Core pillars: the inclusion of students with specific educational support needs, the promotion of universal accessibility in the educational community and the guarantee of equal opportunities for all.

Among the services offered are:

- **Academic accompaniment and monitoring**, through counselling and the development of personalised plans aimed at those who need to improve their academic performance.
- **Attention to diversity**, through the implementation of non-significant curricular adjustments - in methodological and Assessment aspects - for students with specific educational support needs, in order to guarantee equal opportunities.
- **Extracurricular training resources**, aimed at developing personal and professional Competencies that contribute to the integral growth of students.
- **Vocational guidance**, through the provision of tools and advice to those who have concerns about their choice of Degree or are considering a change in their educational path.

Students in need of educational support can contact the Area via the following email address: [orientacioneducativa@universidadeuropea.es](mailto:orientacioneducativa@universidadeuropea.es)

## 11. ONLINE SURVEYS

Participating in the Satisfaction Surveys is an enriching opportunity to contribute to the continuous improvement of the Degree as well as the institution. Thanks to them, it is possible to identify which aspects of academics, teaching staff and the teaching-learning process are working well and which can be further improved.

With the aim of encouraging active participation in the completion of surveys among students, various channels of dissemination have been set up. The surveys are available in the space provided on the Virtual Campus and are also sent by email to facilitate access.

The responses collected allow decisions to be made that have a direct impact on the quality of the learning experience and on the day-to-day life of the university community.