

**Epidemiology of Infectious Diseases**

Code: 101011  
 ECTS Credits: 3

Degree	Type	Year	Semester
2500502 Microbiology	OB	3	2

**Contact**

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**Use of languages**

Principal working language: catalan (cat)

Some groups entirely in English: No

Some groups entirely in Catalan: Yes

Some groups entirely in Spanish: No

**Prerequisites**

Although there is no official prerequisite, students are advised to review the concepts that refer to the microbial world, studied previously.

**Objectives and Contextualisation**

In this subject it is intended that the student:

- Know the concepts on which the epidemiological studies of infectious diseases in humans are based.
- Know the microbiological techniques applicable to epidemiological studies.
- Know what is the situation of the most infectious diseases that concern the global level.
- Understand the measures we have in place to prevent the transmission of infectious diseases.
- Know the epidemiological surveillance systems.
- Know how to extract and correctly interpret the information regarding the epidemiology of infectious diseases in humans from specialized sources.

**Content**

CONTENTS OF THEORETICAL CLASSES

Topic 1. Introduction to the epidemiology of infectious diseases. Objectives of epidemiology. Basic concepts in epidemiology of infectious diseases. Basic concepts in microbial epidemiology. Clinical investigation of outbreaks and epidemics. Epidemiological surveillance systems. Frequency and association measures.

Topic 2. Molecular epidemiology.

Concept of clonality. Phenotypic epidemiological markers. Genotypic epidemiological markers. Criteria for the evaluation of molecular markers.

Topic 3. Global epidemiological situation of infectious diseases.

Important infectious diseases globally, current situation and new challenges. Diseases of compulsory declaration. Emerging diseases.

Topic 4. Bioterrorism.

Introduction. Characteristics of the biological agents used as weapons. Classification. Agents of category A: *Bacillus anthracis*, *Yersinia pestis*, smallpox virus, *Francisella tularensis*, hemorrhagic fever virus and botulinum toxin. Agents of categories B and C. Paper of the microbiology laboratory. Preventive measures

Topic 5. Immunization.

Immunological basis of vaccination. Vaccines and adjuvants. Preventable diseases for vaccination. Current and future vaccines.

#### CONTENT OF THE SEMINARS

Attendance at all seminars is mandatory. In the seminars, students will prepare epidemiological reports on infectious diseases using data from national and international epidemiology agencies.