Universidad Zaragoza

Academic Year: 2025/26

66023 - Advanced immunology

Teaching Plan Information

Academic year: 2025/26
Subject: 66023 - Advanced immunology
Faculty / School: 100 - Facultad de Ciencias
Degree: 537 - Master's in Molecular and Cellular Biology
ECTS: 6.0
Year: 1
Semester: First semester
Subject type: Optional
Module:

1. General information

The general objective of the subject is to broaden the immunological knowledge of the students, mainly on the mechanisms by which the immune system prevents pathologies, as well as on pathologies of the immune system itself.

2. Learning results

Use the terminology specific to the area.

Determine how the immune system responds to different pathogens.

Explain the pathogenesis and symptomatology of diseases of the immune system

Assess the efficacy of the different types of existing vaccines or others that may be produced in the future based on their knowledge of the immune responses they elicit.

Interpret the results and possibilities of immunotherapy treatments.

Search and analyse specific information related to Immunology

Make presentations on topics related to Immunology at a higher level.

3. Syllabus

BLOCK I. UPDATE

General properties of the immune system: integration and regulation of the immune system.

BLOCK II. IMMUNE RESPONSES TO ANTIGENS

Immunity against bacteria. Immunity against viruses. Immunity against parasites. Immunity against fungi. Techniques of immunization. Tumour immunology. Immunotherapies.

BLOCK III. CLINICAL IMMUNOLOGY. IMMUNOPATHOLOGIES

Immune rejection. Autoimmune diseases. Primary and secondary immunodeficiencies. Hypersensitivity reactions. Animal models for the study of immunopathologies.

4. Academic activities

Master classes: 34 hours.

Problems and cases: 8 hours.

Seminars: 10 hours.

Visits: 4 hours.

Assessment tests. 4 hours.

Personal study. 90 hours.

5. Assessment system

The subject will be evaluated in the **continuous assessment** mode by means of the following activities:

1. Attendance and active participation (20% of the grade).

2. Problem solving and clinical cases (30% of the grade).

3. Presentation and exposition of a seminar (50% of the grade).

The work will deal with a topic related to the subject, which each student will discuss with the teacher. The teacher will supervise the student's personal work, guiding them in the search for information and its evaluation. The work will be presented and discussed in class. It will be graded from 0 to 10 and will contribute 50% to the final grade: 30% will correspond to the teacher's evaluation and 20% to the evaluation made by the students through a rubric.

In case of not following the continuous assessment, the students must demonstrate that they have achieved the expected learning results by means of a final exam.

6. Sustainable Development Goals

3 - Good Health and Well-being
4 - Quality Education