

Academic Year/course: 2024/25

## 62227 - Technologies and models for developing distributed applications

### Syllabus Information

**Academic year:** 2024/25

**Subject:** 62227 - Technologies and models for developing distributed applications

**Faculty / School:** 110 - Escuela de Ingeniería y Arquitectura

**Degree:** 534 - Master's Degree in Informatics Engineering

**ECTS:** 6.0

**Year:** 1

**Semester:** Second semester

**Subject type:** Compulsory

**Module:**

### 1. General information

The main objective of the subject is to learn how to design and implement secure Internet distributed applications that take advantage of the possibilities of rapid deployment, scalability and flexibility offered by current infrastructures, such as cloud computing.

### 2. Learning results

The student should be able to:

1. Know, understand and apply the main technologies for the development of Internet-based applications.
2. Know, understand and apply models of component-based software development.
3. Know, understand and apply the different types of middleware software.

### 3. Syllabus

Contents to develop

- Fundamentals of distributed applications on the Internet.
- Technologies, frameworks and standards for the development of applications on the Internet.
- Design of distributed applications on the Internet.
- Integration of components through events and messages.
- Basic concepts and principles for the design of applications based on cluster, grid and cloud environments.
- Resource management models (processing, storage, network) applied to cluster, grid and cloud environments.

### 4. Academic activities

- Master classes and problems (24h).
- Laboratory practices (24h).
- Subject work (12h).
- Study (84h).
- Assessment tests (6h).

### 5. Assessment system

The student must demonstrate that they has achieved the expected learning results through a **global evaluation test** that has two parts:

- **Written test** [20%] Questions and/or problems related to the topics of the syllabus. Learning results: 1, 2 and 3
- **Completion of the practical project** [80%] It will consist of the development of an application distributed on the Internet and the corresponding technical report. Learning results: 1, 2 and 3

The subject will be graded according to the established weighting.

In the second call, there will be a test with the same characteristics as the test in the first call.

### 6. Sustainable Development Goals

8 - Decent Work and Economic Growth

9 - Industry, Innovation and Infrastructure