

Academic Year/course: 2023/24

62227 - Technologies and models for developing distributed applications

Syllabus Information

Academic year: 2023/24

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.

These approaches and objectives are aligned with the Sustainable Development Goals (SDGs) of the United Nations Agenda 2030 (<https://www.un.org/sustainabledevelopment/es/>) and certain specific targets, such that the acquisition of the learning results of the subject will contribute to some extent to the achievement of Objective 8.2 of Goal 8, and Objective 9.5 of Goal 9.

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. 25 hours.
- Laboratory practices. 20 hours.
- Subject work. 27 hours.
- Study. 72 hours.
- Assessment tests (6 hours)

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.