

## 30244 - Verification and Validation

### Syllabus Information

**Academic year:** 2023/24

**Subject:** 30244 - Verification and Validation

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

**Degree:** 439 - Bachelor's Degree in Informatics Engineering

**ECTS:** 6.0

**Year:** 3

**Semester:** Second semester

**Subject type:**

**Module:**

### 1. General information

The main objective of this subject is that the student learns to plan and perform a testing process within the development life cycle of a software product, paying special attention to the evaluation of human-computer interaction, and test automation. The subject has a markedly applied character. The student will learn the concepts of verification and validation by applying them to a set of computer applications presented both in the problem classes and in the different sessions of the laboratory practices.

These approaches and objectives are aligned with the Sustainable Development Goals (SDGs) of the 2030 Agenda of United Nations (<https://www.un.org/sustainabledevelopment/es/>); specifically, the learning activities planned in this subject will contribute to the achievement of target 9.1 of Goal 9.

### 2. Learning results

- Be able to verify the software by performing inspections.
- Be able to validate software by applying the most popular software testing techniques.
- Know and know how to apply the existing techniques for testing Human-Computer Interfaces.
- Know how to create a test plan, and manage the activities involved in the testing process.
- Be able to use tools that assist in software testing.

### 3. Syllabus

- Unit 1: Management of the testing process.
- Unit 2: Dynamic Testing techniques and tools.
- Unit 3: Static evaluation techniques and tools.
- Unit 4: Dynamic testing and evaluation of Human-Computer Interfaces.

### 4. Academic activities

- Participative lectures: 30 hours.
- Problem solving and case studies: 12 hours.
- Laboratory practices: 18 hours.
- Study and personal work: 84 hours.
- Assessment tests: 6 hours.

## 5. Assessment system

**First call.** The assessment of the subject is based on two tests:

- **P1.** Written test on the basic concepts of the subject in which the student will have to answer short questions and solve small exercises. A minimum grade of 5.0 points is required in this test to pass the subject. If this minimum grade is obtained, then the test will be weighted 30% in the grade of the subject. The date of this test will be determined by EINA's management for the global test of the subject.

- **P2.** Work associated with laboratory practices carried out in teams. A minimum grade of 5.0 points is required in this test to pass the subject. If this minimum grade is obtained, then the test is weighted at 70% of the grade. Each team, consisting of 3 students (except for justified exceptions), must attend each practice session and make the deliveries indicated. If the student has not attended the practical laboratory sessions or has not made the required deliveries in each practical session, in addition to sending all the deliverable, the exam on the date that the EINA management establishes for the overall test of the subject must be taken.

It is mandatory to take and submit both tests in order to pass the subject. If in one of the tests, or in both of them, the grade obtained is lower than 5.0, the final grade of the subject will be the weighted average of the two grades (30% P1 and 70% P2), with a maximum of 4.0.

**Second call.** The assessment of the subject is based on two analogous tests of the first call, with the same weightings and minimum grade requirements.