

29695 - Multimedia Systems

Syllabus Information

Academic year: 2024/25

Subject: 29695 - Multimedia Systems

Faculty / School: 110 - Escuela de Ingeniería y Arquitectura

Degree: 558 - Bachelor's Degree in Industrial Design and Product Development Engineering

ECTS: 6.0

Year: 4

Semester: Second semester

Subject type: Optional

Module:

1. General information

The subject presents the concepts, criteria, methodologies and development tools associated with the design and development of interactive digital multimedia products; especially those related to web technologies, due to their great social transcendence and the existence of utilities that reduce the need to apply computer programming techniques. The objective is for the student to acquire the skills that will allow them to generate this type of documentation with quality criteria.

Due to its self-contained approach, no prerequisite training is required to take the subject, since advanced user computer skills should have been acquired by the student in previous subjects prior to this one.

2. Learning results

1. -Understanding and ability to apply the phases of a work methodology for the development of digital multimedia products.
2. -Proper and efficient use of different types of media and their storage formats for the production of digital multimedia products.
3. -Ability to apply quality criteria on usability in the development of digital multimedia products
4. -Ability to apply quality criteria on information architecture, structure and navigation of digital multimedia products.
5. -Knowledge of web standards, their advantages and the importance of their use
6. -Ability to create simple web sites and mobile applications based on web technologies
7. -Proficient use of computer tools for web site generation
8. -Knowledge of description and programming languages related to the Web

3. Syllabus

Theory

- Introduction to multimedia
- Basics of the Internet and the Web
- Web technologies: Standards
 - HTML and CSS
 - JavaScript and DOM
 - Frameworks
 - Server languages
 - CMS
- Web design
 - Planning
 - Usability
 - Architecture
 - Exploration
 - Implementation
 - Optimization
- Media criteria
- Mobile applications based on web technologies

Practices

- Creation of web pages and web sites
- Scripts

- Adaptable design
- Frameworks
- CMS
- Creation of mobile applications

4. Academic activities

- **Theoretical classes.** 30 hours
 - Approximately half of these hours are devoted to presenting concepts in the form of lectures In the remaining ones, tools and technologies with problem-based learning are presented **Problem solving and case studies.** 18 hours
 - Activities for the understanding of the contents presented in the theoretical classes **Laboratory practices.** 12 hours
 - The overall objective is to develop a website and a mobile application based on web technologies **Teaching assignments.** 27 non face-to-face hours
 - A website of medium complexity and a mobile application based on web technologies are developed
- **Study hours.** 60 hours
- **Assessment tests.** 3 hours

5. Assessment system

There are two evaluation modalities

- **Continuous evaluation**
 - The grade comes from the work developed during the term, especially in the laboratory practices and in the teaching work
- **Overall evaluation**
 - Designed for students who have not followed the dynamics proposed for continuous assessment
 - It consists of:
 - **Exam:** 40%. Multiple-choice test. In order to pass the subject, it is essential to pass the following test
 - **Individual work:** 60%. A website of medium complexity and a mobile application based on web technologies are developed

6. Sustainable Development Goals

- 1 - End of Poverty
- 7 - Affordable and Clean Energy
- 8 - Decent Work and Economic Growth