Academic Year/course: 2023/24

30399 - Audio and Video Electronic Systems

Syllabus Information

Academic year: 2023/24
Subject: 30399 - Audio and Video Electronic Systems
Faculty / School: 110 - Escuela de Ingeniería y Arquitectura
Degree: 581 - Bachelor's Degree in Telecommunications Technology and Services Engineering
ECTS: 6.0
Year: 4
Semester: First semester
Subject type: Optional
Module:

1. General information

The subject "Audio and Video Electronic Systems" aims to train the student in the set of theoretical knowledge, state-of-the-art techniques and complete systems necessary for the acquisition, processing, encoding and editing of audio and video. It is intended that the student is able to develop an audio and video installation in its basic aspects selection of technologies, sizing and wiring of equipment, from the point of viewof electronic systems.

These approaches and objectives are aligned with some of the Sustainable Development Goals, SDGs, of the Agenda 2030 (https://www.un.org/sustainabledevelopment/es/) and certain specific targets, so that the acquisition of the learning results of the subject provides training and competence to the student to contribute in some measure to the achievement of targets 8.2 of goal 8, 7b of goal 7, 9.5, 9.c and 9.1 of goal 9.

2. Learning results

- Understand and know how to apply the fundamentals of signal coding in audio and video systems.
- Have aptitude to develop an audio and video installation in its basic aspects of technology selection, sizing and connection of equipment, from the point of view of electronic systems.
- Efficiently use knowledge of audiovisual systems and standards in the design of electronic systems specific to the audiovisual field.
- Understand the basics of multimedia content transmission and its possible applications.
- Know how to find and interpret data sheets of the components and systems used.

3. Syllabus

PART I.

1. Audio equipment: Mixing tables. Speakers and microphones. Amplifiers. Audio monitoring.

2. Audio installations 100V amplifiers: Distributed loudspeakers. Emergency systems.

3. Perceptual coding

4. Audio communication protocols

PART II.

5. Introduction to video: Color representation. Fundamentals of video systems.

6. Camcorders

7. Monitors and displays

8. Video post-production systems

4. Academic activities

- Participative lectures (45 hours)

The theoretical foundations of the content of the subject are presented and student participation is encouraged.

- Laboratory practices (15 hours)

The students will carry out 5 practice sessions of 3 hours in small groups in a face-to-face manner.

Non-attendance work (90 hours)

- Assessable tasks

Individual assignments to be carried out throughout the four-month period, with a sharing and evaluation in the classroom.

- Completion of a supervised practical work

Based on the contents of the subject and related to audiovisual technologies and systems.

- Study

- Tutoring

- Assessment

5. Assessment system

The student will be assessed by means of **continuous assessment and a global test** in each of the exams established throughout the term.

- Continuous Assessment

- **Assessable tasks (20%)**

These assignments will be eminently practical and must be handed in throughout the subject. The tasks will be evaluated both in terms of the results obtained and the process and presentation of the same.

- **Laboratory practices (20%)**

The assessment will be based on the materials delivered as a result of the practices, and the observation of the students' ability to develop the proposed techniques on the part of the students.

- **Final project (60%)**

A practical work of the subject should be carried out in which different solutions and practical applications of audiovisual technologies and audio and video systems will be implemented . The content and objectives of the work will be agreed with the students and will be adapted to the time and credits available in the subject. It will be mandatory to make an oral presentation of the work during class time. The work will be evaluated according to the following criteria:

Objectives and scope of work (10%)

Work planning (20%)

Technological implementation and contributions made (35%)

Achievement of objectives (20%)

Oral and written presentation of the work (15%)

Self-evaluation of the working group as well as the rest of the groups of the subject.

- Overall test

In the two official exams, the student will be evaluated globally by means of a final written exam valued from 0 to 10 points (100%). The exam will consist of a written test in which the theoretical and practical knowledge of the subject will be assessed and will take place in the timetables and classrooms provided by the Center.

The course is passed with a grade of 5 points out of 10.