

Academic Year/course: 2022/23

30378 - Audio and image processing

Syllabus Information

Academic Year: 2022/23

Subject: 30378 - Audio and image processing

Faculty / School: 110 - Escuela de Ingeniería y Arquitectura

Degree: 581 - Bachelor's Degree in Telecommunications Technology and Services Engineering

ECTS: 6.0

Year: 3

Semester: Second semester

Subject Type: Compulsory

Module:

1. General information

2. Learning goals

3. Assessment (1st and 2nd call)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The learning process that is designed for this subject is based on: M1: Participative Lecture Presentation by the lecturer of the main contents of the course (40 hours). This activity will take place in the classroom unless other circumstances advise to take virtual lectures. Theoretical knowledge is provided to the students in such a way that it will allow them to achieve all the specified learning outcomes and all the specified competencies.

M8: Classroom Practical Sessions Statement and/or the resolution of exercises and problems in the classroom. Their topics will be closely related to the contents of the course (10 hours). This activity is designed to advance gradually in all specified learning outcomes and competencies transversally.

M4: Supervised personal or team practical work Deliverables will be requested related to the resolution of practical problems in teams for several parts of the syllabus. Results must be submitted in time and in the correct format. This activity is designed to consolidate all specified learning outcomes and competencies as well as their development. The results of these works is one of the evaluation activities (E2).

M11: Supervision of individual or team practical work

While performing practical work each team must meet regularly with the lecturer in order to follow up the work, to assess the project progress and to get an answer to the questions that could have arisen (2 hours). Learning outcomes and competencies that students acquire through this activity are shared by activity M4.

M9 (10 hours) and M15: Laboratory Sessions

M9 involves ten hours in the computer classroom, in five 2-hour practical sessions unless other circumstances advise to take virtual lab sessions. The efficient achievement of the sessions time, some previous preparation of the work is required and some after-lab work with the obtained results to settle the concepts (M15). Through these activities, all specified learning outcomes and competencies are strengthened and reinforced. In the documentation delivered, each student will be able to find a detailed description of the activities to be performed in the lab as well as the way in which the student must demonstrate the acquisition of the relevant results and competences since this work belongs also to one of the evaluation activities (E3).

4.2. Learning tasks

The course includes the following learning tasks:

- A1. Lectures
- A2: Practical classes
- A3. Lab work
- A4: Projects
- A5: Tutoring
- A6: Evaluation.

4.3. Syllabus

- 1- INTRODUCTION TO AUDIO AND IMAGE SIGNALS
- 2- ESTIMATION AND CHARACTERIZATION OF AUDIOVISUAL SIGNALS
- 3- OPTIMAL FILTERING IN AUDIO AND IMAGE
- 4- AUDIO AND IMAGE COMPRESSION.

4.4. Course planning and calendar

The schedule of the course, both the classroom sessions and the laboratory sessions, will be determined by the academic calendar that the school will establish for the academic year.

4.5. Bibliography and recommended resources

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=30378>