

Academic Year/course: 2020/21

## 30348 - Multimedia and Interactive Engineering

### Syllabus Information

Academic Year: 2020/21

Subject: 30348 - Multimedia and Interactive Engineering

Faculty / School: 110 - Escuela de Ingeniería y Arquitectura

Degree: 438 - Bachelor's Degree in Telecommunications Technology and Services Engineering

ECTS: 6.0

Year: 4

Semester: Second semester

Subject Type: ---

Module: ---

### 1. General information

#### 1.1. Aims of the course

#### 1.2. Context and importance of this course in the degree

#### 1.3. Recommendations to take this course

### 2. Learning goals

#### 2.1. Competences

#### 2.2. Learning goals

#### 2.3. Importance of learning goals

### 3. Assessment (1st and 2nd call)

#### 3.1. Assessment tasks (description of tasks, marking system and assessment criteria)

### 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 (8 hours) and M15: Laboratory Sessions

M9 involves eight hours in the computer classroom, in several (up to 5) 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 are 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).

M14: Visits

To complete the training of the students some visits are planned. During these visits, each student will be able to get access to infrastructure, services and systems that have been previously known in the classroom. The planned visits are: National Reference Center for Audiovisual Technologies, Walqa (Huesca) Usability Lab, Walqa (Huesca), Aragonese Corporation of Radio and Television (Zaragoza)

## 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 INTERACTIVE MULTIMEDIA TELECOMMUNICATION SYSTEMS AND SERVICES.

2. MULTIMEDIA SIGNALS, Image, Video, Text, Graphics

2.1 Audio and Speech

2.2.- Image, graphics and text

2.3.-Video

2.4. New multimedia signals

3- INFRASTRUCTURES AND TELECOMMUNICATIONS SERVICES FOR MULTIMEDIA AND INTERACTIVE SYSTEMS AND SERVICES.

3.1.-Networks

3.2.- Distribution Systems

3.3.- Access systems

4- INTERACTIVITY

4.1 Introduction to the concept of interactivity.

4.2.- The process of interaction design.

4.3 Interfaces and Interaction.

Types Of Interaction.

Types of Interfaces

4.4.- Interaction Management.

## 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://biblos.unizar.es/br/br\\_citas.php?codigo=30348&year=2019](http://biblos.unizar.es/br/br_citas.php?codigo=30348&year=2019)