Universidad Zaragoza

Year : 2019/20

30336 - Audiovisual Communications

Syllabus Information

Academic Year: 2019/20
Subject: 30336 - Audiovisual Communications
Faculty / School: 110 - Escuela de Ingeniería y Arquitectura
Degree: 438 - Bachelor's Degree in Telecomunications Technology and Services Engineering
ECTS: 6.0
Year: 3
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 methodology followed in this course is oriented towards the achievement of the learning objectives. Audiovisual Communication provides the knowledge and methodologies needed to build, operate and manage audiovisual systems, both traditional as television or new multimedia systems via the Internet. The course focuses both on the analysis, coding and processing of audiovisual signals and the capture, transport and presentation of multimedia information. The teaching methodology is based on lectures, practical sessions, visits, seminars and teamwork. Students are expected to participate actively in the class throughout the semester. Classroom materials will be available via Moodle. These include a repository of the lecture notes used in class, the course syllabus, as well as other course-specific learning materials, including a discussion forum. Further information regarding the course will be provided on the first day of class.

4.2.Learning tasks

The learning process is based on the following activities:

? Lectures (40 hours) where the teacher presents the main contents of the subject to the students. This activity will take place in the classroom in person.

? Seminars and visits (10 hours) in which professionals of the audiovisual sector will present practical cases to the students.

? Laboratory work (10 hours) which is divided in 5 sessions of 2 hours.

? Project work, where student teams must work in a particular project. The student must study the state of the art of the techniques to be used on the project and they must write a technical report with the activities and results of the project. Any project related to the audiovisual world is suitable to be accepted.

? Tutorial. Personalized attention to students with the aim of reviewing and discussing the materials and topics presented in both theoretical and practical classes.

? Summative assessment and Examination.

4.3.Syllabus

The course will address the following topics:

- Topic 1. Basic elements of audiovisual communication
  - 1.1. The human audiovisual system: vision, hearing
  - 1.2. From the scene to the video signal
  - 1.3. Speech and audio signals
  - 1.4. Audio and Video Digitization
- Topic 2. Audiovisual information compression
  - 2.1. Image Compression
  - 2.2. Video Compression
  - 2.3. Speech and audio compression
- Topic 3. Standards for audiovisual signals Coding
  - 3.1. Speech: DPCM, ADPCM, LPC, CELP
  - 3.2. Audio: MPEG
  - 3.3. Image: JPEG2000
  - 3.4. Video: H26X, MPEG2, MPEG4, MPEG7
- Topic 4. Audiovisual transmission systems
  - 4.1. Digital Audio Broadcasting (DAB)
  - 4.2. Digital Video Broadcasting (DVB)
  - 4.3. Internet Protocol Television (IPTV)

4.4.Course planning and calendar

The schedule of the course, both lectures and laboratory sessions will be determined by the academic calendar that the center established for the corresponding academic year. The latest information could be found in the virtual teaching platform ?Moodle?.

4.5.Bibliography and recommended resources

http://biblos.unizar.es/br/br_citas.php?codigo=30336&year=2019