Universidad Zaragoza

30312 - Digital Signal Processing

Información del Plan Docente

Academic Year	2018/19
Subject	30312 - Digital Signal Processing
Faculty / School	110 - Escuela de Ingeniería y Arquitectura
Degree	438 - Bachelor's Degree in Telecomunications Technology and Services Engineering 330 - Complementos de formación Máster/Doctorado
ECTS	6.0
Year	---
Semester	Indeterminate
Subject Type	ENG/Complementos de Formación, Compulsory
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. A wide range of teaching and learning tasks are implemented, such as lectures, practice sessions, assignments, computer lab sessions, autonomous work, and tutorials. Students are expected to participate actively in the class throughout the semester.

Classroom materials will be available via Moodle. Further information regarding the course will be provided on the first day of class.

4.2.Learning tasks

The course is organized as follows:

- Lectures (40 hours) & practice sessions (10 hours). The teacher explains the course contents and solves representative applied problems. More examples and problems are proposed and solved during the practice sessions. Regular attendance is highly recommended.
- Computer lab sessions. Sessions will take place every 2 weeks (5 sessions in total) and they last 2 hours each. Students will work together in pairs. Before each lab session, students will complete and submit a pre-lab problem set. At the end of each lab session, they will take an assessment test.
- Assignments (autonomous group work). Every other week, students will complete an assignment with problems and exercises related to concepts seen in laboratory sessions and lectures. Student will work together in groups of three. Assignments will be submitted via Moodle.

4.3.Syllabus

The course will address the following topics:

- Discrete Time Fourier Transform and Discrete Fourier Transform
- Sampling, analog reconstruction, interpolation and decimation
- Z Transform
- Systems Analysis and synthesis in transformed domain
- Transfer function and frequency response
- Special systems (minimum phase, all-pass, linear phase)
- Filter design

4.4.Course planning and calendar

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course will be provided on the first day of class and on the course webpage in the Moodle platform (https://moodle.unizar.es). Also, refer to the EINA website (http://eina.unizar.es).

4.5.Bibliography and recommended resources