

Academic Year: (2019 / 2020)

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Department assigned to the subject:

Coordinating teacher: RAJO IGLESIAS, EVA

Type: Electives ECTS Credits : 6.0

Year : 1 Semester : 1

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

There are no prerequisites for this course, but it will be recommended to have completed an elementary course on Statistics. This course is a elementary course specifically tailored for those students that no previous background on digital communications.

OBJECTIVES

The competences that the students acquire are:

- 1-. To design a digital communication system.
- 2-. Evaluate the suitability and performance of the different parts of the digital communication system.

The learning results will allow students acquire the following knowledge:

- 1-. Different modulation schemes and receiver design for band limited channels.
- 2-. Multipulse scheme modulations.

DESCRIPTION OF CONTENTS: PROGRAMME

Chapter 1. Introduction to digital communications. Modulation and detection.

Chapter 2. Digital modulations: linear, phase and frequency.

Chapter 3. Multipulse modulations: OFDM and spread spectrum.

Chapter 4. Receiver and precoder designs.

LEARNING ACTIVITIES AND METHODOLOGY

The student evaluation consists of a continuous evaluation and a final exam. For the continuous evaluation there will be theoretical and practical exercises and a oral defense of the student work.

ASSESSMENT SYSTEM

% end-of-term-examination/test:	40
% of continuous assessment (assignments, laboratory, practicals...):	60

The student must complete the continuous evaluation process. The detail of the activities that will be evaluated and the weighting will be given when the course starts. These activities are the 60% of the final grade.

The 40% of the grade correspond to the final exam.

BASIC BIBLIOGRAPHY

- A. Artés, F. Pérez, J. Cid, R. López, C. Mosquera, F. Pérez. Comunicaciones Digitales, Pearson Educación, 2007

BASIC ELECTRONIC RESOURCES

- A. Artés, F. Pérez, J. Cid, R. López, C. Mosquera, F. Pérez... . Comunicaciones Digitales:
http://www.tsc.uc3m.es/~antonio/libro_comunicaciones/El_libro.html