

Academic Year/course: 2024/25

## 30395 - Expansion of communication electronics

### Syllabus Information

**Academic year:** 2024/25

**Subject:** 30395 - Expansion of communication electronics

**Faculty / School:** 110 - Escuela de Ingeniería y Arquitectura

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

**ECTS:** 6.0

**Year:** 4

**Semester:** First semester

**Subject type:** Optional

**Module:**

### 1. General information

This subject is an extension of the "Communications Electronics" subject. The objectives of this subject are based on the design of small communication chains, both in transmitters and receivers. The basis of this subject is to integrate and extend the concepts of the previous theory courses: Signals, communication theory, modulations, noise treatment, in practical and concrete examples on electronic techniques. That is to say, to build what was studied before in a simply conceptual way. In this way, basic competencies are achieved in Telecommunications and previous knowledge is reinforced by applying it. The techniques described are both Analog and Digital

### 2. Learning results

This subject complements the real and applied knowledge of Communications Electronics and of the systems of communication in general in the field of the degree. Especially within the Electronic Systems track. It works together with the Communications Electronics laboratory, providing a higher level of training and above all allowing a better understanding of the previous theories, through practical application in small chains and telecommunication systems.

### 3. Syllabus

Introduction to the design of communications systems. Electronic planning of communications systems: architecture, complete design and implementation technologies (analog and digital). Distortion and noise processes in electronic circuits . Specifications and elements of a transmitter. Specifications and elements of a r

### 4. Academic activities

A01 Lectures (40 hours).

A02 Problem solving and case studies 20 hours

A03 Laboratory practice 60 hours

A05 Conducting practical application work or research 30 hours

### 5. Assessment system

TSe proposes a two-part assessment:

t1 - 60% of the grade in a written test composed of theoretical and practical questions and evaluation problems

P1 - 40% of the grade obtained through the development of a staged communications system by means of the laboratory practices. GLOBAL TEST (OFFICIAL CALLS): In the two official calls, the student's global evaluation will be carried out at , with the following tests: - Final written exam: grade C1 from 0 to 6 points (60%). Laboratory exam: grade C2 from 0 to 4 points (40%).

Students will be exempted from this exam if the C2 grade obtained in the laboratory practices and associated work during the

academic year. is higher than or equal to 1 points out of 4. The total grade for the subject (out of 10 points) will be  $C1 + C2$ , provided that  $C1$  is higher than or equal to 3 and  $C2$  is higher than or equal to 2. Otherwise, the total grade for the subject will be the minimum between  $C1 + C2$  and 4. The subject is passed with a total grade higher or equal to 5 points out of 10.