

Academic Year: (2023 / 2024)

Review date: 08-05-2018

Department assigned to the subject: Signal and Communications Theory Department

Coordinating teacher: ARTES RODRIGUEZ, ANTONIO

Type: Electives ECTS Credits : 3.0

Year : Semester :

OBJECTIVES

Knowledge of communication systems and technologies in specific sectors (military, medicine, domestic,). Capacity of designing and managing such systems.

Therefore, the subject has the goal of allowing the student to acquire the following general competences:

¿ Knowledge and development of technical skills required in the telecommunications field with emphasis in the analysis and design of a communication system in different applications with specific requirements.

The same way than the following specific competences:

- ¿ Acquisition of the knowledge of mathematics and statistics that will be used as a tool to solve engineering problems in the context of communication systems. (PO a, PO e, and PO k)
- ¿ Knowledge of present communication systems in different situations and applications. (PO e, PO h)
- ¿ Design of a communication system with the constraints given by its critical parameters such as cost, consume of power, bandwidth, transmission rate, and complexity. (PO c)
- ¿ Ability of effective communication of information, in speech and in writing. (PO g)

DESCRIPTION OF CONTENTS: PROGRAMME

1. Communications in medicine. Introduction to the use of TIC in medicine (eHealth); Data in medicine; Telemedicine and mobility. Apps in the health market. Standards in medial imaging, messaging and terminology
2. Military communications: tactic and strategic communication systems. Tactical data links. Link-16 networks. Data links for UAV
4. Digital Home: Sensor networks; Smart TV, Smart Gateway, Standards.

LEARNING ACTIVITIES AND METHODOLOGY

Three teaching activities are proposed: Theoretical classes, laboratory exercises, and elaboration of technical reports.

THEORETICAL CLASSES (2 ECTS)

The theoretical class will be given in the blackboard, with slides or by any other means to illustrate the concepts learnt. In these classes the explanation will be completed with examples.

LABORATORY (1 ECTS)

It consists on the definition of a business model and elaboration of a business case for a telemedicine service, that will be defined for that case, establishing analysis of the demand and cost simulation. It will be also defined the price. The indicators and typical data will be obtained. The result will be a document including the definition of the business model, and an excell file with the business case

ASSESSMENT SYSTEM

The final exam will determine 60% of the total course grade (6 points). (PO a, PO h, and PO k)

The rest of the grading 40% (4 points) is obtained along the academic year as a laboratory practice: 40% of the total course grade (4 points). (PO a, PO c, PO g, PO h, and PO k)

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