Multidisciplinary applications of information technology and communications

Academic Year: (2021 / 2022) **Review date: 03-09-2021**

Department assigned to the subject: Signal and Communications Theory Department

Coordinating teacher: AZPICUETA RUIZ, LUIS ANTONIO

Type: Compulsory ECTS Credits : 6.0

Year : 2 Semester : 1

OBJECTIVES

The student must adquire the following competences:
-Capacity to integrate technologies and systems from Telecommuncation Engineering in general applications, and in wide and multidisciplinary fields.

DESCRIPTION OF CONTENTS: PROGRAMME

ICT applications in specific markets and sectors, considering non-exclusively the following sectors:

- Health
- Scientometrics
- Audio and virtual reality
- Electromagnetic compatibility
- Information retrieval in historical documents
- Multimedia

LEARNING ACTIVITIES AND METHODOLOGY

Learning activities include:
- Theoretical class, small group discussions and group tutoring, student presentations, individual tutoring and individual student's work, that includes study, tests and exams oriented toward the adquisition of theoretical knoledge.

ASSESSMENT SYSTEM

The assessment will evaluate the degree of fulfilment of the learning objectives from student's work, both individual and collectively. The continuous assessment of student¿s activities will be carried out from test and exams, practical exercises and other academic activities.
The final grade will consider both the group and individual activities. The final exam will determine 60% of the total course grade, the rest being determined by the continuous assessment.

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

BASIC BIBLIOGRAPHY

- B.B. Mandelbrost, R.L. Hudson Teh (Mis)Behaviour of Markets, Profile Books, 2008

- Dominique Paret RFID and contactless smart card applications, John Wiley and Sons, , 2005

- J. Gibson, T. Berger, T. Lookabaugh, D. Lindbergh and R. L. Baker Digital Compression for Multimedia. Principles and Standards, San Francisco, CA. Morgan Kaufman, 1998

- Michael R. Frater, Michael Ryan Electronic Warfare for the Digitized Battlefield, Artech House, , 2001.

- Mike Henderson Guide to Digital Home Technology Integration, , Quentin Wells HL7 Messaging, , Second Edition

- Pianykh, Oleg S Digital Imaging and Communications in Medicine (DICOM): A Practical Introduction and Survival Guide,, Springer.

ADDITIONAL BIBLIOGRAPHY

- null Communications Magazine, IEEE.

- null Communications of the ACM, ACM.

- null Engineering in Medicine and Biology, IEEE.

- Bovik, Al (Ed.) Handbook of Image and Video Processing, Academic Press, 2005

- Herman Oosterwijk DICOM Basics, Third Edition, -.

- José A. Gutiérrez, Edgar H. Callaway and Raymond Barrett IEEE 802.15.4 Low-Rate Wireless Personal Area Networks: Enabling Wireless Sensor Networks, IEEE Press, , 2004
- null IEEE Multimedia, IEEE.

- null Proceedings of the IEEE, IEEE.

- B. Gold and N. Morgan Speech and Audio Signal Processing: Processing and Perception of Speech and Music, New York:. John Wiley & Sons, 2000
- Ramjee Prasad Technologies for Home Networking,, Sudhir Dixit.