SUBJECT TEACHING GUIDE

G819 - Treatment of Signals

Degree in Telecommunication Technologies Engineering

Academic year 2019-2020

1. IDENTIFYING DATA					
Degree	Degree in Telecommunication Technologies Engineering			Type and Year	Compulsory. Year 2
Faculty	School of Industrial Engineering and Telecommunications				
Discipline	Subject Area: Signals and Communications Module in Common with the Telecommunications Branch				
Course unit title and code	G819 - Treatment of Signals				
Number of ECTS credits allocated	6	Term		Semester based (2)	
Web	http://gtas.unican.es/docencia/TS				
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. INGENIERIA DE COMUNICACIONES
Name of lecturer	LUIS ANTONIO VIELVA MARTINEZ
E-mail	luis.vielva@unican.es
Office	Edificio Ing. de Telecomunicación Prof. José Luis García García. Planta: - 2. DESPACHO S271 (S271)
Other lecturers	

3.1 LEARNING OUTCOMES
- Knowledge and application of basic techniques for the analysis and processing of deterministic and random signals , both continuous and discrete .
- Application of signal processing techniques in telecommunication systems
- Model and solve problems of signal processing with Matlab

4. OBJECTIVES
Knowledge of the basic principles of representation, analysis and processing of discrete and continuous signals , both deterministic and random .
Application of these principles in telecommunications systems.

6. COURSE ORGANIZATION

CONTENTS	
1	Tools for the matrix formulation of signal processing : vector spaces , Hilbert spaces , matrix operations , matrix associated subspaces
2	Linear convolution , Fourier transforms and generalizations , circular convolution , eigenvalue problems , projections, digital filters , singular value decomposition
3	Total and partial characterization of n- dimensional random variables and stochastic processes.

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Final exam (PF)	Written exam	Yes	Yes	60,00
Assessment test 1 (PEC1)	Written exam	No	No	20,00
Assessment test 2 (PEC2)	Written exam	No	No	20,00
TOTAL				100,00

Observations
The calification is calculated as max (PF, PF * 0.6 + PEC1 * 0.2 + PEC2 * 0.2)
Observations for part-time students
The calification is calculated as max (PF, PF * 0.6 + PEC1 * 0.2 + PEC2 * 0.2)

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

Oppenheim & Schafer, "Tratamiento de señales en tiempo discreto", Prentice Halll

Strang, "Introduction to linear algebra"