

## SUBJECT TEACHING GUIDE

G837 - Treatment of Multimedia Signals

Degree in Telecommunication Technologies Engineering

Academic year 2019-2020

1. IDENTIFYING DATA					
Degree	Degree in Telecommunication Technologies Engineering			Type and Year	Optional. Year 3
Faculty	School of Industrial Engineering and Telecommunications				
Discipline	Subject Area: Transmission and Treatment of Signals				
Course unit title and code	G837 - Treatment of Multimedia Signals				
Number of ECTS credits allocated	6	Term	Semester based (2)		
Web	<a href="http://gtas.unican.es/docencia/tsm">http://gtas.unican.es/docencia/tsm</a>				
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. INGENIERIA DE COMUNICACIONES				
Name of lecturer	JESUS PEREZ ARRIAGA				
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Other lecturers					

### 3.1 LEARNING OUTCOMES

- Applying tools and concepts of statistical signal processing to solving problems of classification, estimation, prediction, modeling and optimal / adaptive filtering.
- Ability to solve problems of statistical signal processing through computer simulation.

#### 4. OBJECTIVES

Solving simple problems of classification and detection.
Estimation of power spectral density of stochastic processes.
Solving basic parameter estimation problems.
Solving basic problems of optimal filtering, channel equalization, system identification, linear prediction, noise and interference cancellation.
Using Matlab to solve statistical signal processing problems.

#### 6. COURSE ORGANIZATION

CONTENTS	
1	Classification and detection
2	Parametric estimation.
3	Spectral analysis.
4	Optimum filtering and adaptive filtering.

#### 7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Final exam.	Written exam	Yes	Yes	60,00
Quizzes.	Written exam	No	No	20,00
.	Laboratory evaluation	No	No	20,00
TOTAL				100,00
Observations				
<p>The assessment consists of a set of quizzes and a final exam.            If the final exam score is equal to or greater than 4 out of 10, the final grade is the weighted average of the quizzes (40%) and final exam (60%). If the final exam score is less than 4 out of 10, the student fails the subject.</p>				
Observations for part-time students				
The student must score at least 5 out of 10 in the final exam to pass the course.				

#### 8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC
S. M. Kay, Fundamentals of statistical signal processing, vol. I, Estimation theory, Prentice Hall, 1993
S. M. Kay, Fundamentals of statistical signal processing, vol. II, Detection theory, Prentice Hall, 1998
P. Stoica, R. Moses, Introduction to spectral analysis, Prentice Hall, 1997