

SUBJECT TEACHING GUIDE

G837 - Treatment of Multimedia Signals

Degree in Telecommunication Technologies Engineering

Academic year 2020-2021

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	http://gtas.unican.es/docencia/tsm		
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 and quizzes The online evaluation of the final exam and quizzes is foreseen in the event that a new health alert for COVID-19 makes it impossible to carry out the regular evaluation.	Written exam	Yes	Yes	60,00
Quizzes.	Written exam	No	Yes	40,00
		No	No	0,00
TOTAL				100,00

Observations

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.

The online evaluation of the final exam and quizzes is foreseen in the event that a new health alert for COVID-19 makes it impossible to carry out the regular evaluation.

Observations for part-time students

The student must score at least 5 out of 10 in the final exam to pass the course.

The online evaluation of the final exam is foreseen in the event that a new health alert for COVID-19 makes it impossible to carry out the regular evaluation.

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