

## SUBJECT TEACHING GUIDE

G759 - Experimental Techniques in Mechanical Engineering

Degree in Mechanical Engineering

Academic year 2022-2023

1. IDENTIFYING DATA					
Degree	Degree in Mechanical Engineering			Type and Year	Optional. Year 4
Faculty	School of Industrial Engineering and Telecommunications				
Discipline	Subject Area: Design and Manufacturing Optional Module: Mechanical Engineering				
Course unit title and code	G759 - Experimental Techniques in Mechanical Engineering				
Number of ECTS credits allocated	6	Term	Semester based (2)		
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. INGENIERIA ESTRUCTURAL Y MECANICA				
Name of lecturer	ALFONSO FERNANDEZ DEL RINCON				
E-mail	alfonso.fernandez@unican.es				
Office	E.T.S. de Ingenieros Industriales y de Telecomunicación. Planta: - 2. DESPACHO (S2042)				
Other lecturers	JESUS PASCUAL GARCIA CARLOS AGUILAR QUINTANA MIGUEL IGLESIAS SANTAMARIA				

### 3.1 LEARNING OUTCOMES

- The student will be able to know and evaluate the instrumentation that is used in the measurement of vibrations, as well as in other experimental techniques. The student will also know the tools of signal analysis in the measurement of vibrations, its application to experimental modal analysis. Moreover, the student will also gain knowledge about vibration testing and noise measurement and control.

### 4. OBJECTIVES

tbvd

## 6. COURSE ORGANIZATION

CONTENTS	
1	Experimental Vibration Measurement
2	tbd
3	tbd
4	tbd
5	tbd

## 7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
tbd	Others	No	No	30,00
tbd	Laboratory evaluation	No	Yes	30,00
tbd	Written exam	Yes	Yes	40,00
TOTAL				100,00
Observations				
tbd				
Observations for part-time students				
tbd				

## 8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC
An Introduction to Random Vibrations, Spectral & Wavelet Analysis. 3rd Ed. D. E. Newland Longman (1993), Dover Publications Inc, New York (2006)
Instrumentación aplicada a la ingeniería Jesus Fraile Mora, Pedro García Gutierrez, Jesús Fraile Ardanuy ISBN 978-84-1545-233-1 (2010)
Theoretical and experimental modal analysis Maia, Silva ISBN 0-86380-208-7 (1997)
Mechanical Vibration and Shocks Measurements Brüel and Kjaer (1980)
Noise and Vibration Analysis A. Brandt John Wiley & Sons (2011)
Vibration Testing Kenneth G. McConnell (1995)

