

SUBJECT TEACHING GUIDE

G1009 - Advanced Design of Printed Circuit Boards

Degree in Industrial Electronic Engineering and Automatic Control Systems

Academic year 2019-2020

1. IDENTIFYING DATA					
Degree	Degree in Industrial Electronic Engineering and Automatic Control Systems			Type and Year	Optional. Year 4
Faculty	School of Industrial Engineering and Telecommunications				
Discipline	Subject Area: Electronic Technology Optional Module				
Course unit title and code	G1009 - Advanced Design of Printed Circuit Boards				
Number of ECTS credits allocated	6	Term	Semester based (2)		
Web					
Language of instruction	Spanish	English Friendly	Yes	Mode of delivery	Face-to-face

Department	DPTO. TECNOLOGIA ELECTRONICA E INGENIERIA DE SISTEMAS Y AUTOMATICA				
Name of lecturer	FRANCISCO JAVIER DIAZ RODRIGUEZ				
E-mail	javier.diaz@unican.es				
Office	E.T.S. de Ingenieros Industriales y de Telecomunicación. Planta: - 3. DESPACHO PROFESORES (S3083)				
Other lecturers	ALEJANDRO NAVARRO CRESPIAN				

3.1 LEARNING OUTCOMES

- Meet modern techniques of PCB design and manufacture.
PCB regulations and standards.
Understanding aspects of integrity of the signals simulation, analysis and verification and the basic principles to avoid EMC problems.

4. OBJECTIVES

Achieve learning outcomes

6. COURSE ORGANIZATION

CONTENTS	
1	PCB manufacturing processes
2	Regulations and standard
3	PCB design

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Continuous and laboratory evaluations	Laboratory evaluation	No	Yes	50,00
Presentation of the final work	Work	Yes	Yes	50,00
TOTAL				100,00
Observations				
Continuous assessment during the course. A complete PCB for an electronic system is evaluated.				
Observations for part-time students				

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

Tema 1:

C.F. Coombs, "Printed circuits handbook", 6º Edición, Edt. McGraw-Hill, 2008

Tema 2:

D. Brooks, "Signal integrity issues and printed circuit board design", Edt. Prentice Hall, 2003

M.I. Montrose, "Printed circuit board design techniques for EMC compliance: a handbook for designers", Edt. IEEE Press Series, 2000.

Tema 3:

K. Mitzner, "Complete PCB design using OrCAD Capture and PCB Editor", Edt. Newnes, 2009

Manuales del programa Cadence/Allegro

Manuales de DesignSpark