

SUBJECT TEACHING GUIDE

G825 - Microprocessors

Degree in Telecommunication Technologies Engineering

Academic year 2021-2022

1. IDENTIFYING DATA					
Degree	Degree in Telecommunication Technologies Engineering			Type and Year	Compulsory. Year 3
Faculty	School of Industrial Engineering and Telecommunications				
Discipline	Subject Area: Microprocessors Compulsory Module				
Course unit title and code	G825 - Microprocessors				
Number of ECTS credits allocated	6	Term	Semester based (1)		
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. INGENIERÍA INFORMÁTICA Y ELECTRÓNICA				
Name of lecturer	MARIA DEL CARMEN MARTINEZ FERNANDEZ				
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Office	Facultad de Ciencias. Planta: + 1. DESPACHO PROFESOR (1101)				
Other lecturers	FERNANDO VALLEJO ALONSO JESUS GUTIERREZ PRECIADO				

3.1 LEARNING OUTCOMES
- Ability to evaluate different hardware options for a computer based on its performance
- Ability to understand how the computer hardware executes programs written in any programming language
- Ability to understand all input/output processes of a computer thus choosing the best technique for a given communication process

4. OBJECTIVES

The main objective is to know and understand the basic principles of Computer Engineering, specially those related to Computer Structure. The student must understand how a computer works in a machine level programming language. Also, the student must program with some ease different algorithms and applications in assembly language. The student should also be able to design and analyze the functioning of the different parts of a simple computer and its I/O system.

6. COURSE ORGANIZATION

CONTENTS	
1	Introduction to Computer Engineering
2	Information in the computer: integers, floats, characters, overflow.
3	ARM processor architecture.
4	Assembly programming.
5	Input / Output: Drivers and programming
6	ARM Microarchitecture.

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
An exam in the laboratory.	Others	No	Yes	30,00
Several exaxams, both theory and practice.	Written exam	No	Yes	70,00
TOTAL				100,00
Observations				
Both ' Evaluación laboratorio' and ' Evaluación teórico-práctica' can be repeated in the extraordinary call exam.				
Observations for part-time students				
Part-time students can choose between following the usual evaluation of the subject or doing a single exam. This must be communicated to the responsible of the course at the beginning of the semester.				

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC
Digital design and computer architecture. Sarah L. Harris, David Money Harris. Waltham, Massachusetts : Morgan Kaufmann, cop. 2016. ISBN: 978-0-12-800056-4
Modern assembly language programming with the ARM processor. Larry D. Pyeatt. Kidlington (UK) ; Cambridge (USA) : Newness/Elsevier, cop, 2016. ISBN: 978-0-12-803698-3