

## SUBJECT TEACHING GUIDE

G1492 - Real Time Programming

Degree in Telecommunication Technologies Engineering

Academic year 2019-2020

1. IDENTIFYING DATA					
Degree	Degree in Telecommunication Technologies Engineering			Type and Year	Optional. Year 4
Faculty	School of Industrial Engineering and Telecommunications				
Discipline	Speciality Optional Subjects				
Course unit title and code	G1492 - Real Time Programming				
Number of ECTS credits allocated	6	Term	Semester based (1)		
Web	<a href="http://www.istr.unican.es/assignaturas/PSTR/index.html">http://www.istr.unican.es/assignaturas/PSTR/index.html</a>				
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. INGENIERÍA INFORMÁTICA Y ELECTRÓNICA				
Name of lecturer	JULIO LUIS MEDINA PASAJE				
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Other lecturers					

### 3.1 LEARNING OUTCOMES

- Enables for the design and development of applications that control and monitor the physical system in which the computer is embedded, such as communications nodes, robotic systems or industrial systems.
- Enables for the design and development of applications that control and monitor the physical system in which the computer is embedded, such as communications nodes, robotic systems or industrial systems.
- Ability to analyze and configure the schedulability of applications with hard and soft real-time requirements.

#### 4. OBJECTIVES

Ability to specify and design applications which are concurrent and driven by events.

Ability to program applications for monitoring and control of physical environments that have their own temporal dynamics.

To know strategies of interchange of events and data between a computer and the hardware environment with which it is connected.

Knowing how to model, analyze and configure concurrent applications to meet the time requirements that they have specified.

#### 6. COURSE ORGANIZATION

##### CONTENTS

1	Basis of concurrent programming
2	Real-time aspects in a programming language.
3	Input/output management strategies
4	Real-time modeling and schedulability analysis
5	Integrated pilot project of the subject

#### 7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Evaluation for the tasks performed in the laboratory on the personal pilot project.	Laboratory evaluation	Yes	Yes	50,00
Oral examination about the presentation of the personal pilot project.	Oral Exam	Yes	Yes	50,00
<b>TOTAL</b>				<b>100,00</b>
Observations				
Observations for part-time students				
The evaluation is flexible enough so that the subject can be followed by part-time students.				

#### 8. BIBLIOGRAPHY AND TEACHING MATERIALS

##### BASIC

A. Welling: "Concurrent and Real-Time Programming in Java" Wiley, 2004

A. Burn y A. Welling: " Real-Time Systems and Programming Languajes: Ada, Real-Time Java and C/Real-Time POSIX" Addison Wesley, 2009.