SUBJECT TEACHING GUIDE

G711 - Further Automation

Degree in Industrial Technologies Engineering

Academic year 2019-2020

1. IDENTIFYING DATA					
Degree	Degree in Industrial Technologies Engineering			Type and Year	Compulsory. Year 3
Faculty	School of Industrial Engineering and Telecommunications				
Discipline	Subject Area: Further Electronics and Automation Module: Selection of Specific Technologies				
Course unit title and code	G711 - Further Automation				
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. TECNOLOGIA ELECTRONICA E INGENIERIA DE SISTEMAS Y AUTOMATICA
Name of lecturer	LUCIANO ALONSO RENTERIA
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Other lecturers	DAMASO FERNANDEZ PEREZ LUIS GARCIA RODRIGUEZ JOSE ANGEL JUAREZ CRESPO

3.1 LEARNING OUTCOMES

- Obtaining skills and abilities in analysis and design of control systems with computer.

4. OBJECTIVES

Obtain the mathematical model of discrete control systems.
Study of techniques for sampling and reconstruction of signals.
Analysis of the temporal behavior of control systems with computer.
Design of discrete systems using different techniques.
Implantation techniques.

6. COURSE ORGANIZATION

CONTENTS	
1	ANALYSIS OF CONTROL SYSTEMS WITH COMPUTER Mathematical model Sampling and reconstruction Discrete equivalent Stability Temporal analysis
2	DISCREET DESIGN REGULATORS Discretization of continuous regulators Design by root locus Frequency Design Direct method

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
First theory control	Written exam	No	No	30,00
First laboratory control	Laboratory evaluation	No	No	10,00
Final theory exam	Written exam	Yes	Yes	40,00
Final laboratory exam	Laboratory evaluation	Yes	Yes	20,00
TOTAL				100,00

Observations
Attendance at the laboratory practices is mandatory

Observations for part-time students
Final exam with theoretical part (70%) and practical part (30%)

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

J. Pérez Oria y S. Arnaltes. "Introducción a los Sistemas de Control con Computador". Editorial Ciencia 3. Madrid, 1993
R. Aracil y A. Jimenez. "Sistemas Discretos de Control: Representación externa". Sección Publicaciones de E.T.S.I.I.M. Madrid,1987.
J.R. Llata, E. González, D. Fernández, J. Arce y J. Pérez Oria. "Problemas de Ingheniería de Sistemas: Sistemas Discretos". Ediciones TDG, 2000
K.J. Amstrong and B. Wittenmark. "Sistemas controlados por computador". Ed. Paraninfo, 1988.