

SUBJECT TEACHING GUIDE

G699 - Automatic Control Systems

Degree in Industrial Technologies Engineering

Academic year 2024-2025

1. IDENTIFYING DATA					
Degree	Degree in Industrial Technologies Engineering			Type and Year	Compulsory. Year 2
Faculty	School of Industrial Engineering and Telecommunications				
Discipline	Subject Area: Electronics and Automation Module in Common with the Industrial Branch				
Course unit title and code	G699 - Automatic Control Systems				
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	JOSE RAMON LLATA GARCIA				
E-mail	ramon.llata@unican.es				
Office	E.T.S. de Ingenieros Industriales y de Telecomunicación. Planta: - 2. DESPACHO JOSE RAMON LLATA GARCIA (S2017)				
Other lecturers	ALBERTO PURAS TRUEBA				

3.1 LEARNING OUTCOMES

- Knowledge of automation technologies and their fields of application.
- Knowledge of the techniques of representation of dynamic systems.
- Capacity Dynamic Analysis Time-continuous systems in the time and frequency and capacity Controllers Design
- Time-Continuous Dynamical Systems in Time domain

4. OBJECTIVES

Knowledge of automation technologies and their fields of application.
 Knowledge of the techniques of representation of dynamic systems.
 Capacity for Analysis of Dynamic continuous-time systems in the time and frequency frequency domains and capacity to
 Design continuous-time controllers for Dynamical Systems in Time domain

6. SUBJECT PROGRAM

CONTENTS

1	AUTOMATION: Introduction to methods and techniques of industrial control
2	BASIC CONTROL: Analysis of Continuous Time Systems in time domain.
3	BASIC CONTROL: Frequency Analisis for Continuous Time Systems
4	AUTOMATION: Industrial Automation, definition, types and classification, Technology and examples.
5	BASIC CONTROL: Introduction and representation of feedback continuous-time control systems

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Continuous Assessment	Others	No	Yes	20,00
Continuous Assessment	Written exam	No	Yes	60,00
Continuous Assessment	Work	No	Yes	20,00
Students who have not completed the continuous assessment will take a written exam in which all the contents seen in the subject will be evaluated and the weight of this exam will be 100% of the grade.	Written exam	Yes	No	0,00
TOTAL				100,00

Observations

Students who fail the course for continuous evaluation can go to a final written exam in the June session. To pass this test will be overcome with a minimum of 5.
 In the extraordinary call: they can go to a final written exam in the June session. To pass this test will be overcome with a minimum of 5.
 Remote evaluation, of these same exams, is planned in the case of a new health alert by COVID-19 making it impossible to conduct the evaluation in person.

Observations for part-time students

There will be a written exam (60%) and a practical exam (40%) at the Laboratory and will need to obtain a minimum score of 5 out of 10 in both.
 Remote evaluation, of these same exams, is planned in the case of a new health alert by COVID-19 making it impossible to conduct the evaluation in person.

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

- Ogata, Katsuhiko. Ingeniería de control moderna / Katsuhiko Ogata 4 Ed. 2003 en adelante.
- Hostetter, Gene H. Sistemas de control / Gene H. Hostetter, Clement J. Savant, Raymond T.. 1990 en adelante.
- Franklin, Gene F. Feedback control of dynamic systems / Gene F. Franklin, J. David Powel, Abbas Emani-Naeini. 1994 en adelante
- Automatismos Industriales. José A.Barbado Santana, J. Martin Sierra, J. Aparicio Bravo. Creaciones Copyright. 2011 en adelante
- Control Automático con Herramientas Interactivas . Jose Luis Guzmán. Ramon Costa, Manuel Berenguel. Sebastian Dormido. Pearson. Uned Editorial.
- Automatismos Eléctricos e Industriales. J.L. Duran, H. Martinez, J. Gámiz. J. Domingo. A. Grau.Altamar S.A., Marcombo. 2011. ISBN: 978-84-26715-63-0