[GJH203] ADVANCED INDUSTRIAL AUTOMATION

GENERAL INFORMATION

Studies	DEGREE IN MECHATRONICS ENGINEERING			**Subject**	?
Semester	1	**Course**	4	**Mention / Field of specialisation**	
Character	COMPULSORY				
Plan	2022	**Modality**	Face-to-face	**Language**	CASTELLANO/EUSKARA
Credits	4,5	**Hours/week**	3.75	**Total hours**	67.5 class hours + 45 non-class hours = **112.5 total hours**

PROFESSORS

GOMEZ DIEZ, CARLOS PEDRO
AZURMENDI URTEAGA, ASIER
POGGI, TOMASO
ARRATIBEL GARCIA, ANDONI

REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
INTRODUCTION TO AUTOMATION	*(No previous knowledge required)*

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
GJR403 - To know and apply principles for the design and testing of machines and systems Design industrial-mechanical control and automation systems		x		4,02
G-RTR1 - To develop interdisciplinary projects specific to their specialty and of gradual complexity, - becoming aware of respect for human rights and fundamental rights, and analyzing and assessing the impact of the proposed solutions on the SDGs - to acquire and/or apply basic, advanced and /or avant-garde, demonstrating the ability to work in multidisciplinary teams and/or undertake further studies with a high degree of autonomy		x		0,24
G-RTR2 - To express information, ideas and the arguments that support them in an orderly, clear and coherent manner, orally and in writing, based on quality information, self-made or obtained from different sources, using inclusive and non-discriminatory language		x		0,24
			Total:	4,5

KC: Knowledge or Content / SK: Skills / AB: Abilities

CONTENTS

1. - Advanced programming of PLCs

1.1 - PLC programmingenvironment.

1.2 - PLC basic concepts.

1.3 - Advanced Programming (Numerical Processing, Analog Processing, FC, FB and Variables)

1.4 - Industrial Communications (Industrial Ethernet, industrial field buses, OPC UA)

2. - HMIs, monitoring and control.

3. - Machine Safety

3.1 - Directives and Regulations (2006/42 / CE, CE marked, UNE-EN ISO12.100, UNE-EN ISO 13849-1: 2008)

4 . -Introduction to "Motion control"

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Moodle Platform Lab practical training Programmes Slides of the subject	https://www.br-automation.com/en/academy/classroom-learning/training-modules/ https://www.br-automation.com/en/academy/virtual-classroom/br-tutorial-portal/ PLCs OMRON: https://sites.google.com/view/omron-spain-education/p%C3%A1gina-principal/cursos/sysmac-automat-avanzada Web Omron: https://automation.omron.com/es/us/support/resources/downloads.html?filters=type==document&filters=type.document==type.

document&page=1&pageSize=10

http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_lnk. pl?grupo=MECATRONICA41&ejecuta=5&_ST