Goi Eskola Politeknikoa | Mondragon Unibertsitatea

Course: 2024 / 2025 - Course planning

Mondragon Unibertsitatea
Goi Eskola Politeknikoa
Escuela Politécnica Superior

[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**	EUSKARA/CASTELLANO/ENGLISH
Credits	4,5	**Hours/week**	3.75	**Total hours**	67.5 class hours + 45 non-class hours = **112.5 total hours**

2030 AGENDA GOALS

8 DECENT WORK AND ECONOMIC GROWTH   9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

PROFESSORS

AZURMENDI URTEAGA, ASIER

POGGI, TOMASO

SESAR GIL, IÑIGO

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. - Programación avanzada de autómatas

1.1 - Entorno de programación de PLCs

1.2 - Conceptos básicos de PLC

1.3 - Programación avanzada (procesamiento numérico, procesamiento analógico, FC, FB y variables)

1.4 - Comunicaciones industriales (Ethernet industrial, buses de campo industriales, OPC UA)

2. - HMI, monitorización y control.

3. - Seguridad de la máquina

3.1 - Directivas y reglamentos (2006/42 / CE, marcado CE, UNE-EN ISO12.100, UNE-EN ISO 13849-1: 2008)

4. - Introducción a "Motion Control"

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
[!] *Plataforma Moodle* [!] *Realización de prácticas en laboratorio* [!] *Programas* [!] *Transparencias de la asignatura*	https://www.br-automation.com/en/academy/classroom-learning/traini ng-modules/ https://www.br-automation.com/en/academy/virtual-classroom/br-tutori al-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/d ownloads.ht ml?filters=type==document&filters=type.document==type. document&page=1&pageSize=10

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