UNIVERSIDAD DE CASTILLA - LA MANCHA

GUÍA DOCENTE

1. General information

Course: INDUSTRIAL AUTOMATION
Code: 56508
Type: CORE COURSE
ECTS credits: 6
Degree: 359 - UNDERGRAD. IN INDUSTRIAL ELECTRONICS AND AUTOMAT. ENGINEERING (CR)
Academic year: 2022-23
Center: 602 - E.T.S. INDUSTRIAL ENGINEERING OF C. REAL
Group(s): 20
Year: 3
Duration: C2
Main language: Spanish
Second language:
Use of additional languages:
English Friendly: N
Web site:
Bilingual: N

Lecturer: **FRANCISCO RAMOS DE LA FLOR** - Group(s): **20**

Building/Office	Department	Phone number	Email	Office hours
Edificio Politécnico, 2-C02	INGENIERÍA ELÉCTRICA, ELECTRÓNICA, AUTOMÁTICA Y COMUNICACIONES	Vía Teams	francisco.ramos@uclm.es	

Lecturer: **DAVID ROBLES CUENCA** - Group(s): **20**

Building/Office	Department	Phone number	Email	Office hours
	INGENIERÍA ELÉCTRICA, ELECTRÓNICA, AUTOMÁTICA Y COMUNICACIONES		David.Robles@uclm.es	

2. Pre-Requisites

Not established

3. Justification in the curriculum, relation to other subjects and to the profession

Not established

4. Degree competences achieved in this course

Course competences

Code	Description
A07	Knowledge of Information Technology and Communication (ITC).
A08	Appropriate level of oral and written communication.
A12	Knowledge of basic materials and technologies that assist the learning of new methods and theories and enable versatility to adapt to new situations.
A13	Ability to take the initiative to solve problems, take decisions, creativity, critical reasoning and ability to communicate and transmit knowledge, skills and abilities in Industrial Electronic Engineering and Automation.
A15	Ability to work to specifications and comply with obligatory rules and regulations.
CB01	Prove that they have acquired and understood knowledge in a subject area that derives from general secondary education and is appropriate to a level based on advanced course books, and includes updated and cutting-edge aspects of their field of knowledge.
CB02	Apply their knowledge to their job or vocation in a professional manner and show that they have the competences to construct and justify arguments and solve problems within their subject area.
CB03	Be able to gather and process relevant information (usually within their subject area) to give opinions, including reflections on relevant social, scientific or ethical issues.
CB04	Transmit information, ideas, problems and solutions for both specialist and non-specialist audiences.
CB05	Have developed the necessary learning abilities to carry on studying autonomously
D11	Ability to design control and industrial automatization systems.

5. Objectives or Learning Outcomes

Course learning outcomes

Description

Ability to design systems of control and industrial automatization

6. Units / Contents

Unit 1:

Unit 2:

Unit 3:

Unit 4:

7. Activities, Units/Modules and Methodology

Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	Description

Class Attendance (theory) [ON-SITE]	Lectures	A07 A08 A12 A13 A15 CB04 D11	1.2	30	N	-	
Problem solving and/or case studies [ON-SITE]	Project/Problem Based Learning (PBL)	A07 A08 A12 A13 A15 CB01 CB02 CB03 CB04 CB05	0.4	10	N	-	
Laboratory practice or sessions [ON-SITE]	Practical or hands-on activities	A07 A08 A12 A13 A15 CB01 CB02 CB03 CB04 CB05 D11	0.6	15	Y	Y	
Formative Assessment [ON-SITE]	Assessment tests	A08 A12 A13 A15 CB01 CB02 D11	0.2	5	Y	Y	
Study and Exam Preparation [OFF-SITE]	Self-study	A13 CB01 CB02 CB03 CB04 CB05 D11	3.6	90	N	-	
		Total:	**6**	**150**			
Total credits of in-class work: 2.4							**Total class time hours: 60**
Total credits of out of class work: 3.6							**Total hours of out of class work: 90**

As: Assessable training activity
Com: Training activity of compulsory overcoming (It will be essential to overcome both continuous and non-continuous assessment).

8. Evaluation criteria and Grading System

Evaluation System	Continuous assessment	Non-continuous evaluation*	Description
Laboratory sessions	40.00%	40.00%	
Final test	60.00%	60.00%	
Total:	**100.00%**	**100.00%**	

According to art. 4 of the UCLM Student Evaluation Regulations, it must be provided to students who cannot regularly attend face-to-face training activities the passing of the subject, having the right (art. 12.2) to be globally graded, in 2 annual calls per subject , an ordinary and an extraordinary one (evaluating 100% of the competences).

9. Assignments, course calendar and important dates

Not related to the syllabus/contents

Hours	**hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	30
Problem solving and/or case studies [PRESENCIAL][Project/Problem Based Learning (PBL)]	10
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	15
Formative Assessment [PRESENCIAL][Assessment tests]	5
Study and Exam Preparation [AUTÓNOMA][Self-study]	90

Global activity

Activities	**hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	30
Problem solving and/or case studies [PRESENCIAL][Project/Problem Based Learning (PBL)]	10
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	15
Study and Exam Preparation [AUTÓNOMA][Self-study]	90
Formative Assessment [PRESENCIAL][Assessment tests]	5
Total horas:	150

10. Bibliography and Sources

Author(s)	Title/Link	Publishing house	Citv	ISBN	Year	Description
E. Mandado Pérez y otros	Autómatas programables. Entorno y aplicaciones	Paraninfo		9788497323284	2004	
	http://catalogo.biblioteca.uclm.es/opac/BaratzCL?TITN=510336					
F. Ojeda	Automatización con Grafcet y Autómata Programable: Problemas resueltos	Ra-Ma		978-84-9964-811-8	2019	
	http://catalogo.biblioteca.uclm.es/opac/BaratzCL?TITN=826322					
F. Reyes y otros	Mecatrónica: Control y Automatización	Alfaomega		9789586829632	2013	
	http://catalogo.biblioteca.uclm.es/opac/BaratzCL?TITN=783409					