UNIVERSIDAD DE CASTILLA - LA MANCHA
GUÍA DOCENTE

1. General information

Course: ADVANCED PROGRAMMING

Type: ELECTIVE

Degree: 359 - UNDERGRAD. IN INDUSTRIAL ELECTRONICS AND AUTOMAT. ENGINEERING (CR)

Center:

Year: 4

Main language: Spanish

Use of additional languages:

Web site:

Code: 56522

ECTS credits: 6

Academic year: 2021-22

Group(s): 20

Duration: C2

Second language: English

English Friendly: Y

Bilingual: N

Lecturer: **OSCAR DENIZ SUAREZ** - Group(s): **20**				
Building/Office	**Department**	**Phone number**	**Email**	**Office hours**
Edificio Politécnico 2-B03	INGENIERÍA ELÉCTRICA, ELECTRÓNICA, AUTOMÁTICA Y COMUNICACIONES	Via Teams	oscar.deniz@uclm.es	

Lecturer: **ANDRES SALOMON VAZQUEZ FERNANDEZ PACHECO** - Group(s): **20**				
Building/Office	**Department**	**Phone number**	**Email**	**Office hours**
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2. Pre-Requisites

Basic knowledge on the use and programming of computers

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
A02	To know how to apply knowledge to work or vocation in a professional manner and possess the competences that are usually demonstrated by the formulation and defence of arguments and the resolution of problems in the field of study.
A04	To be able to transmit information, ideas, problems and solutions to a specialized audience.
A05	To have developed the learning skills necessary to undertake subsequent studies with a greater degree of autonomy.
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.
E08	Knowledge of hardware and software necessary for the development of specialized computer systems used in automatized and robotic systems.

5. Objectives or Learning Outcomes

Course learning outcomes

Not established.

Additional outcomes

6. Units / Contents

Unit 1: Introduction

Unit 2: Advanced programming languages

Unit 3: Data structures and advanced algorithms

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]	Combination of methods	A02 A04 A05 A07 A08 A12 A13 E08	1.08	27	N	-	
Laboratory practice or sessions	Combination of methods	A02 A04 A05 A07 A08 A12	1.2	30	Y	Y	

		A13 E08					
[ON-SITE]		A13 E08					
Study and Exam Preparation [OFF-SITE]	Self-study	A02 A04 A05 A07 A08 A12 A13 E08	1.2	30	N	-	
Final test [ON-SITE]	Assessment tests	A02 A04 A05 A07 A08 A12 A13 E08	0.12	3	Y	Y	
Writing of reports or projects [OFF-SITE]	Guided or supervised work	A02 A04 A05 A07 A08 A12 A13 E08	2.4	60	Y	Y	
		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
Assessment of activities done in the computer labs	30.00%	0.00%	
Laboratory sessions	25.00%	0.00%	
Final test	45.00%	100.00%	
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

Unit 1 (de 3): Introduction

Activities	Hours
Class Attendance (theory) [PRESENCIAL][Combination of methods]	10
Laboratory practice or sessions [PRESENCIAL][Combination of methods]	10

Unit 2 (de 3): Advanced programming languages

Activities	Hours
Class Attendance (theory) [PRESENCIAL][Combination of methods]	14
Laboratory practice or sessions [PRESENCIAL][Combination of methods]	14

Unit 3 (de 3): Data structures and advanced algorithms

Activities	Hours
Class Attendance (theory) [PRESENCIAL][Combination of methods]	4
Laboratory practice or sessions [PRESENCIAL][Combination of methods]	4

Global activity

Activities	hours
Class Attendance (theory) [PRESENCIAL][Combination of methods]	28
Laboratory practice or sessions [PRESENCIAL][Combination of methods]	28
	Total horas: 56

10. Bibliography and Sources

Author(s)	Title/Link	Publishing house	Citv	ISBN	Year	Description
Charte Ojeda, Francisco	SQL	Anaya Multimedia		84-415-1915-3	2005	
Fatos Xhafa et al	Programación en C++ para ingenieros	Thomson		84-9732-485-4	2006	
José M. Azorín Poveda et al.	Programación en C/C++ : ejercicios resueltos	Universidad Miguel Hernández		84-95893-21-5	2002	
Schildt, Herbert	C++ : manual de referencia	McGraw-Hill, Interamericana de España		84-481-0321-1	1995	