UNIVERSIDAD DE CASTILLA - LA MANCHA

GUÍA DOCENTE

1. General information

Course: ELECTRONICS AND CONTROL ENGINEERING
Code: 56718
Type: CORE COURSE
ECTS credits: 6
Degree: 403 - UNDERGRADUATE DEGREE PROGRAMME IN AEROSPACE ENGINEERING
Academic year: 2023-24
Center: 303 - E.DE INGENIERÍA INDUSTRIAL Y AEROESPOACIAL DE TOLEDO
Group(s): 40
Year: 2
Duration: C2
Main language: Spanish
Second language: English
Use of additional languages:
English Friendly: N
Web site:
Bilingual: N

Lecturer: **DAVID RODRIGUEZ ROSA** - Group(s): **40**

Building/Office	Department	Phone number	Email	Office hours
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Lecturer: **LUIS SANCHEZ RODRIGUEZ** - Group(s): **40**

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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
CA01	Ability to carry out bibliographic searches, use databases and other sources of information for its application in tasks related to Technical Aeronautical Engineering.
CA02	Ability to efficiently design experimentation procedures, interpret the data obtained and specify valid conclusions in the field of Aeronautical Technical Engineering.
CA03	Ability to autonomously select and carry out the appropriate experimental procedure, operating the equipment correctly, in the analysis of phenomena within the scope of Engineering.
CA04	Ability to select advanced tools and techniques and their application in the field of Aeronautical Technical Engineering.
CA05	Knowledge of the methods, techniques and tools as well as their limitations in the application for the resolution of problems typical of Aeronautical Technical Engineering.
CA06	Ability to identify and assess the effects of any solution in the field of Aeronautical Technical Engineering within a broad and global context and the ability to interrelate the solution to an engineering problem with other variables beyond the technological field, which must be considered.
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.
CB05	Have developed the necessary learning abilities to carry on studying autonomously
CE17	Knowledge applied to engineering of: The fundamental elements of the various types of aircraft; the functional elements of the air navigation system and the associated electrical and electronic installations; the fundamentals of airport design and construction and its various elements.
CE18	Knowledge applied to Engineering of: The fundamentals of fluid mechanics; the basic principles of flight control and automation; the main characteristics and physical and mechanical properties of materials.
CG01	Capacity for the design, development and management in the field of aeronautical engineering that have as their object, in accordance with the knowledge acquired as established in section 5 of order CIN/308/2009, aerospace vehicles, propulsion systems aerospace, aerospace materials, airport infrastructures, air navigation infrastructures and any space, traffic and air transport management system.
CG02	Planning, drafting, direction and management of projects, calculation and manufacturing in the field of aeronautical engineering that have as their object, in accordance with the knowledge acquired as established in section 5 of order CIN/308/2009, aerospace vehicles , aerospace propulsion systems, aerospace materials, airport infrastructures, air navigation infrastructures and any space, traffic and air transport management system.
CT02	Knowledge and application of Information and Communication Technologies (ICT).

5. Objectives or Learning Outcomes

Course learning outcomes

Description

6. Units / Contents

Unit 1:
Unit 2:
Unit 3:
Unit 4:
Unit 5:
Unit 6:

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	CA04 CA05 CA06 CB01 CB05 CE17 CE18 CG01 CG02 CT02	0.88	22	N	-	
Problem solving and/or case studies [ON-SITE]	Problem solving and exercises	CA04 CA05 CA06 CB01 CB05 CE17 CE18 CG01 CG02 CT02	0.8	20	N	-	
Laboratory practice or sessions [ON-SITE]	Practical or hands-on activities	CA02 CA03 CA06 CB01 CB05 CE17 CE18 CG01 CG02 CT02	0.6	15	Y	Y	
Practicum and practical activities report writing or preparation [OFF-SITE]	Group Work	CA01 CA02 CB01 CB05 CE17 CE18 CG01 CG02 CT02	0.88	22	Y	Y	
Study and Exam Preparation [OFF-SITE]	Self-study	CA01 CA04 CA05 CB01 CB05 CE17 CE18 CG01 CG02 CT02	2.72	68	N	-	
Mid-term test [ON-SITE]	Assessment tests	CA04 CA05 CB01 CB05 CE18 CG01 CG02	0.06	1.5	Y	N	
Final test [ON-SITE]	Assessment tests	CA04 CA05 CB01 CB05 CE17 CE18 CG01 CG02	0.06	1.5	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
Progress Tests	15.00%	0.00%	
Practicum and practical activities reports assessment	15.00%	0.00%	
Mid-term tests	35.00%	0.00%	
Final test	35.00%	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**
Practicum and practical activities report writing or preparation [AUTÓNOMA][Group Work]	2
Study and Exam Preparation [AUTÓNOMA][Self-study]	68
Mid-term test [PRESENCIAL][Assessment tests]	1.5
Final test [PRESENCIAL][Assessment tests]	1.5
Unit 1 (de 6):	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	4
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	4
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	3
Practicum and practical activities report writing or preparation [AUTÓNOMA][Group Work]	4
Unit 2 (de 6):	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	4
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	4
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	3
Practicum and practical activities report writing or preparation [AUTÓNOMA][Group Work]	4
Unit 3 (de 6):	
Activities	**Hours**

Class Attendance (theory) [PRESENCIAL][Lectures]	4
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	4
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	3
Practicum and practical activities report writing or preparation [AUTÓNOMA][Group Work]	4
Unit 4 (de 6):	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	2
Unit 5 (de 6):	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	4
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	4
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	3
Practicum and practical activities report writing or preparation [AUTÓNOMA][Group Work]	4
Unit 6 (de 6):	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	4
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	4
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	3
Practicum and practical activities report writing or preparation [AUTÓNOMA][Group Work]	4
Global activity	
Activities	**hours**
Final test [PRESENCIAL][Assessment tests]	1.5
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	20
Practicum and practical activities report writing or preparation [AUTÓNOMA][Group Work]	22
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	15
Mid-term test [PRESENCIAL][Assessment tests]	1.5
Study and Exam Preparation [AUTÓNOMA][Self-study]	68
Class Attendance (theory) [PRESENCIAL][Lectures]	22
Total horas:	150

10. Bibliography and Sources

Author(s)	Title/Link	Publishing house	Citv	ISBN	Year	Description
Richard C. Dorf y Robert H. Bishop	Modern Control Systems, Global Edition	Pearson Education Limited		1292152974	2016	
Allan Hambley	Electrónica	Prentice - Hall		8420529990	2001	
Thomas L. Floyd	Fundamentos de sistemas digitales	Anaya Publicaciones Generales		849035300X	2016	
Adel S. Sedra, Kenneth C. Smith	Microelectronic Circuits	Oxford University Press		0199339147	2015	
Ramon Pedró Ñeco García	Apuntes de sistemas de control	Editorial Club Universitario		8484543056	2004	
Katsuhiko Ogata	Ingeniería de Control Moderna	Anaya Publicaciones Generales		848322660X	2010	