



1. General information

Course: ELECTRICAL ENGINEERING

Type: CORE COURSE

Degree: 403 - UNDERGRADUATE DEGREE PROGRAMME IN AEROSPACE ENGINEERING

Center: 303 - E.DE INGENIERÍA INDUSTRIAL Y AEROESPACIAL DE TOLEDO

Year: 2

Main language: Spanish

Use of additional languages:

Web site:

Code: 56717

ECTS credits: 6

Academic year: 2023-24

Group(s): 40

Duration: C2

Second language: English

English Friendly: N

Bilingual: N

Lecturer: ÁLVARO GARCÍA CERREZO - Group(s): 40

Building/Office	Department	Phone number	Email	Office hours
	INGENIERÍA ELÉCTRICA, ELECTRÓNICA, AUTOMÁTICA Y COMUNICACIONES		Alvaro.GarciaCerezo@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
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.
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
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.
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.
CG03	Installation, operation and maintenance 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, materials aerospace, airport infrastructure, air navigation infrastructure and any space, traffic and air transport management system.
CG06	Ability to participate in flight test programs to collect data on takeoff distances, climb rates, stall rates, maneuverability, and landing capabilities.
CG07	Ability to analyze and assess the social and environmental impact of technical solutions.
CT01	Knowledge of technical vocabulary of subjects related to aerospace engineering, in a second foreign language.
CT03	Correct use of oral and written communication.

5. Objectives or Learning Outcomes

Course learning outcomes

Description

6. Units / Contents

Unit 1:
Unit 2:
Unit 3:
Unit 4:
Unit 5:
Unit 6:
Unit 7:
Unit 8:

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	CA05 CA06 CE17 CG02 CG03 CG06 CG07 CT01	0.88	22	N	-	
Problem solving and/or case studies [ON-SITE]	Problem solving and exercises	CA01 CA02 CA03 CA04 CA05 CA06 CB01 CB02 CB03 CB04 CB05 CE17 CT03	0.8	20	N	-	
Laboratory practice or sessions [ON-SITE]	Practical or hands-on activities	CA01 CA02 CA03 CA04 CA05 CA06 CB01 CB02 CB03 CB04 CB05 CE17 CG02 CG03 CG06 CG07 CT03	0.6	15	Y	Y	
Writing of reports or projects [OFF-SITE]	Cooperative / Collaborative Learning	CA01 CA02 CA03 CA04 CA05 CA06 CB01 CB02 CB03 CB04 CB05 CE17 CG02 CG03 CG06 CG07 CT01 CT03	0.88	22	Y	Y	
Final test [ON-SITE]	Assessment tests	CA01 CA02 CA03 CA04 CA05 CA06 CB01 CB02 CB03 CB04 CB05 CE17 CT03	0.12	3	Y	Y	
Study and Exam Preparation [OFF-SITE]	Self-study	CA01 CA02 CA03 CA04 CA05 CA06 CB01 CB02 CB03 CB04 CB05 CT01 CT03	2.72	68	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
Final test	70.00%	70.00%	
Practicum and practical activities reports assessment	30.00%	30.00%	
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]	22
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	20
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	15
Writing of reports or projects [AUTÓNOMA][Cooperative / Collaborative Learning]	22
Final test [PRESENCIAL][Assessment tests]	3
Study and Exam Preparation [AUTÓNOMA][Self-study]	68
Global activity	
Activities	hours
Class Attendance (theory) [PRESENCIAL][Lectures]	22
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	20
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	15

Final test [PRESENCIAL][Assessment tests]	3
Writing of reports or projects [AUTÓNOMA][Cooperative / Collaborative Learning]	22
Study and Exam Preparation [AUTÓNOMA][Self-study]	68
Total horas:	150

10. Bibliography and Sources						
Author(s)	Title/Link	Publishing house	Citv	ISBN	Year	Description
A. Gómez, J. L. Martínez, J. A. Rosendo, E. Romero, J. M. Riquelme	Fundamentos de Teoría de Circuitos	Ediciones Paraninfo S.A.		9788497324175	2007	
A. J. Conejo, A. Clamagirand, J. L. Polo, N. Alguacil	Circuitos Eléctricos para la Ingeniería	McGraw-Hill		8448141792	2004	
Carlson, A. Bruce	Teoría de circuitos : ingeniería, conceptos y análisis de ci	Thomson		978-84-9732-066-5	2004	
Chapman, Stephen J.	Máquinas eléctricas / Stephen J. Chapman ; traducción, Carla	McGraw-Hill		970-10-4947-0	2005	
D. E. Johnson, J. R. Johnson, J. L. Hilburn, P. D. Scott	Análisis Básico de Circuitos Eléctricos	Prentice Hall International		9789688806388	1997	
Edminister, Joseph A.	Teoría y problemas de circuitos eléctricos	McGraw-Hill		968-451-582-0	1989	
Fraile Mora, Jesús	Máquinas eléctricas	McGraw-Hill		978-84-481-6112-5	2008	
Nilsson, James William	Circuitos eléctricos	Pearson Prentice Hall		978-84-205-4458-8	2008	
Sanz Feito, Javier	Máquinas eléctricas	Prentice Hall		84-205-3391-2	2004	