



1. General information

Course: CHEMISTRY

Type: BASIC

Degree: 403 - UNDERGRADUATE DEGREE PROGRAMME IN AEROSPACE
ENGINEERING

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

Year: 1

Main language: Spanish

Use of additional
languages:

Web site:

Code: 56703

ECTS credits: 6

Academic year: 2023-24

Group(s): 40

Duration: First semester

Second language:

English Friendly: Y

Bilingual: N

Lecturer: MARIA TERESA BAEZA ROMERO - Group(s): 40				
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Lecturer: JOSE LUIS DE LA PEÑA RUBIO - Group(s): 40				
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Lecturer: FLORENTINA VILLANUEVA GARCÍA - 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.
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.
CB05	Have developed the necessary learning abilities to carry on studying autonomously
CE04	Ability to understand and apply the principles of basic knowledge of general chemistry, organic and inorganic chemistry and their applications in engineering.
CT01	Knowledge of technical vocabulary of subjects related to aerospace engineering, in a second foreign language.
CT03	Correct use of oral and written communication.
CT04	Knowledge of ethical commitment and professional ethics.
CT05	Knowledge of the principles of management skills and teamwork.

5. Objectives or Learning Outcomes

Course learning outcomes

Description

Knowledge of the most important chemical processes related to the chemical industry.

Development of the ability to solve chemistry problems with initiative, decision making and critical reasoning.

Development of learning skills to undertake further studies with a high degree of autonomy.

Knowledge of the basic principles of chemistry, stimulating scientific reasoning.

Application of knowledge of the structure, properties, composition and transformation of matter in practical cases.

Acquisition of the ability to search for and select information in the field of Chemistry and be able to process it and present it orally and in writing, developing their ability to synthesize.

Acquisition of the ability to carry out group work.

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	CA04 CA05 CB01 CB05 CE04 CT01 CT03 CT04	1	25	N	-	
Problem solving and/or case studies [ON-SITE]	Problem solving and exercises	CB01 CB02 CE04 CT03 CT04	0.48	12	N	-	
Group tutoring sessions [ON-SITE]	Guided or supervised work	CB01 CB02 CB05 CE04 CT03	0.12	3	N	-	
Laboratory practice or sessions [ON-SITE]	Practical or hands-on activities	CA01 CA02 CA03 CA04 CA05 CB01 CB02 CB05 CE04 CT01 CT03 CT04 CT05	0.64	16	Y	Y	
Formative Assessment [ON-SITE]	Assessment tests	CB01 CB02 CB05 CE04 CT03	0.16	4	Y	Y	
Study and Exam Preparation [OFF-SITE]	Self-study	CA01 CA02 CA03 CA04 CA05 CB01 CB02 CB05 CE04 CT03 CT04 CT05	3.44	86	N	-	
Writing of reports or projects [OFF-SITE]	Problem solving and exercises	CA02 CA03 CA05 CB01 CT05	0.16	4	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%	
Laboratory sessions	10.00%	10.00%	
Progress Tests	20.00%	0.00%	
Assessment of problem solving and/or case studies	0.00%	20.00%	
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]	25
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	12
Group tutoring sessions [PRESENCIAL][Guided or supervised work]	3
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	16
Formative Assessment [PRESENCIAL][Assessment tests]	4
Study and Exam Preparation [AUTÓNOMA][Self-study]	86
Study and Exam Preparation [AUTÓNOMA][Self-study]	4
Global activity	
Activities	hours
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	12
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	16
Group tutoring sessions [PRESENCIAL][Guided or supervised work]	3

Class Attendance (theory) [PRESENCIAL][Lectures]	25
Formative Assessment [PRESENCIAL][Assessment tests]	4
Study and Exam Preparation [AUTÓNOMA][Self-study]	86
Total horas:	146

10. Bibliography and Sources						
Author(s)	Title/Link	Publishing house	City	ISBN	Year	Description
Chang, Raymond	Química / Raymond Chang ; revisión técnica, Rodolfo Álvarez	McGraw-Hill		978-607-15-0307-7	2010	
Mahan, Bruce H.	Química : curso universitario	Addison-Wesley Iberoamericana		0-201-64419-3	1995	
Morcillo Rubio, Jesús	Temas básicos de química	Alhambra		84-205-0782-2	1995	
Peterson, W. R.	Formulación y nomenclatura : química inorgánica	EUNIBAR		84-85257-04-9	1985	
Peterson, W. R.	Formulación y nomenclatura química orgánica	EUNIBAR, Editorial Universitaria		84-85257-04-9	1986	
Petrucci, Ralph H.	Química general	Pearson-Prentice Hall		978-84-205-3533-3	2010	
Vale Parapar	Problemas resueltos de química para ingeniería	Thomson		978-84-9732-293-5	2009	
Vian Ortuño, Ángel	Introducción a la química industrial	Reverte		84-291-7933-X	1999	
Vinagre Jara, F.	Fundamentos y problemas de química	Alianza Editorial		84-206-8130-X	1996	
Whitten, Kenneth W.	Química general	McGraw-Hill		84-481-1386-1	2002	