UNIVERSIDAD DE CASTILLA - LA MANCHA

GUÍA DOCENTE

1. General information

Course: CHEMISTRY
Code: 56302
Type: BASIC
ECTS credits: 6
Degree: 360 - UNDERGRAD. IN INDUSTRIAL ELECTRONICS AND AUTOMAT. ENGINEERING (TO)
Academic year: 2023-24
Center: 303 - E.DE INGENIERÍA INDUSTRIAL Y AEROESPOACIAL DE TOLEDO
Group(s): 41
Year: 1
Duration: First semester
Main language: Spanish
Second language:
Use of additional languages:
English Friendly: Y
Web site:
Bilingual: N

Lecturer: **MARIA TERESA BAEZA ROMERO** - Group(s): **41**

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Lecturer: **VICENTE LOPEZ-ARZA MORENO** - Group(s): **41**

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Lecturer: **JOSE LUIS DE LA PEÑA RUBIO** - Group(s): **41**

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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
A01	To understand and have knowledge in an area of study that moves on from the general education attained at secondary level and usually found at a level that, while supported in advanced text books, also includes some aspects that include knowledge found at the cutting edge of the field of study.
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.
A03	To have the capability to gather and interpret relevant data (normally within the area of study) to make judgements that include a reflection on themes of a social, scientific or ethical nature.
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.
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 Engineering and Automation.
A14	Knowledge to undertake measurements, calculations, evaluations, appraisals, studies, give expert opinions, reports, work plans and similar tasks.
A15	Ability to work to specifications and comply with obligatory rules and regulations.
A16	Ability to analyse and evaluate the social and environmental impact of technical solutions.
B04	Ability to understand and apply the principles of basic knowledge of general chemistry, organic and inorganic chemistry and their applications in engineering.

5. Objectives or Learning Outcomes

Course learning outcomes

Description

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

Acquire the ability to carry out work in groups

Be able to apply knowledge of the structure, properties, composition and transformation of materials in practical situations

Know the most important chemical processes relating to the chemical industry

Develop the ability to resolve chemistry problems with initiative, taking decisions and using critical reasoning

The student should be able to develop learning skills to enable them to undertake further studies with a high level of autonomy.

The student should know the basic principles of chemistry, stimulating scientific reasoning

6. Units / Contents

Unit 1:

Unit 1.1

Unit 2:

Unit 3:

Unit 4:

Unit 4.1

Unit 5:

Unit 5.1

Unit 6:

Unit 7:

Unit 7.1

Unit 8:

Unit 8.1

Unit 9:

Unit 10:

Unit 10.1

Unit 11:

Unit 12:

Unit 12.1

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	A01 A05 A08 A12 A13 A14 A16 B04	1	25	N	-	
Workshops or seminars [ON-SITE]	Problem solving and exercises	A02 A03 A13 A14 A15 B04	0.48	12	N	-	
Group tutoring sessions [ON-SITE]	Workshops and Seminars	A05 A13 A14 A15 B04	0.12	3	N	-	
Project or Topic Presentations [ON-SITE]	Guided or supervised work	A01 A02 A03 A04 A05 A08 A13 B04	0.04	1	Y	N	
Laboratory practice or sessions [ON-SITE]	Practical or hands-on activities	A02 A03 A12 A13 A14 A15 A16 B04	0.64	16	Y	N	
Final test [ON-SITE]	Assessment tests	A02 A03 A04 A05 A08 A13 A14 A15 B04	0.12	3	Y	Y	
Study and Exam Preparation [OFF-SITE]	Self-study	A02 A03 A04 A05 A13 A14 A15 B04	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
Theoretical papers assessment	0.00%	10.00%	
Laboratory sessions	0.00%	10.00%	
Progress Tests	0.00%	10.00%	
Final test	0.00%	70.00%	
Total:	**0.00%**	**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
Group tutoring sessions [PRESENCIAL][Workshops and Seminars]	3
Final test [PRESENCIAL][Assessment tests]	3
Study and Exam Preparation [AUTÓNOMA][Self-study]	11

Unit 1 (de 12):

Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	2.5
Workshops or seminars [PRESENCIAL][Problem solving and exercises]	.5
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	4
Study and Exam Preparation [AUTÓNOMA][Self-study]	9

Unit 2 (de 12):

Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	1.5
Workshops or seminars [PRESENCIAL][Problem solving and exercises]	.5
Study and Exam Preparation [AUTÓNOMA][Self-study]	3
Unit 3 (de 12):	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	4
Workshops or seminars [PRESENCIAL][Problem solving and exercises]	1
Study and Exam Preparation [AUTÓNOMA][Self-study]	7.5
Unit 4 (de 12):	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	4
Workshops or seminars [PRESENCIAL][Problem solving and exercises]	2
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	2
Study and Exam Preparation [AUTÓNOMA][Self-study]	15
Unit 5 (de 12):	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	2.5
Workshops or seminars [PRESENCIAL][Problem solving and exercises]	1
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	2
Study and Exam Preparation [AUTÓNOMA][Self-study]	7
Unit 6 (de 12):	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	1.5
Workshops or seminars [PRESENCIAL][Problem solving and exercises]	1
Study and Exam Preparation [AUTÓNOMA][Self-study]	3.5
Unit 7 (de 12):	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	1
Workshops or seminars [PRESENCIAL][Problem solving and exercises]	1
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	2
Study and Exam Preparation [AUTÓNOMA][Self-study]	5
Unit 8 (de 12):	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	3
Workshops or seminars [PRESENCIAL][Problem solving and exercises]	2
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	2
Study and Exam Preparation [AUTÓNOMA][Self-study]	8
Unit 9 (de 12):	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	1
Workshops or seminars [PRESENCIAL][Problem solving and exercises]	1
Study and Exam Preparation [AUTÓNOMA][Self-study]	4
Unit 10 (de 12):	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	4
Workshops or seminars [PRESENCIAL][Problem solving and exercises]	2
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	2
Study and Exam Preparation [AUTÓNOMA][Self-study]	12
Unit 11 (de 12):	
Activities	**Hours**
Project or Topic Presentations [PRESENCIAL][Guided or supervised work]	.5
Study and Exam Preparation [AUTÓNOMA][Self-study]	2.5
Unit 12 (de 12):	
Activities	**Hours**
Project or Topic Presentations [PRESENCIAL][Guided or supervised work]	.5
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	2
Study and Exam Preparation [AUTÓNOMA][Self-study]	2.5
Global activity	
Activities	**hours**
Project or Topic Presentations [PRESENCIAL][Guided or supervised work]	1
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	16
Final test [PRESENCIAL][Assessment tests]	3
Study and Exam Preparation [AUTÓNOMA][Self-study]	90
Workshops or seminars [PRESENCIAL][Problem solving and exercises]	12
Class Attendance (theory) [PRESENCIAL][Lectures]	25
Group tutoring sessions [PRESENCIAL][Workshops and Seminars]	3
	Total horas: 150

10. Bibliography and Sources

Author(s)	Title/Link	Publishing house	Citv	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	