

## SUBJECT TEACHING GUIDE

G429 - Chemistry

Degree in Mechanical Engineering

First Degree in Mechanical Engineering

Academic year 2024-2025

1. IDENTIFYING DATA					
Degree	Degree in Mechanical Engineering First Degree in Mechanical Engineering			Type and Year	Core. Year 1 Core. Year 1
Faculty	School of Industrial Engineering and Telecommunications				
Discipline	Subject Area: Chemistry Basic Training Module				
Course unit title and code	G429 - Chemistry				
Number of ECTS credits allocated	6	Term	Semester based (2)		
Knowledge Field					
Web					
Language of instruction	Spanish	English Friendly	Yes	Mode of delivery	Face-to-face

Department	DPTO. INGENIERIAS QUIMICA Y BIOMOLECULAR
Name of lecturer	NAZELY DIBAN-IBRAHIM GOMEZ
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Other lecturers	ENRIQUE ALVAREZ GUERRA LUCIA GOMEZ COMA GUILLERMO DIAZ SAINZ

#### 4. OBJECTIVES

Given that the physicochemical properties of the compounds and chemical products govern the development and applications of the mechanical, Basic Chemistry has a main objective that the students analyze the relationship between the chemical structure of the elements and chemical products and its applications in this field

6. SUBJECT PROGRAM	
CONTENTS	
1	BLOC I. CHEMICAL SCIENCE IN MECHANICAL ENGINEERING. Lesson 1. Atoms and chemical elements. Lesson 2. Chemical compounds.
2	BLOC II. CHEMICAL PROCESSES IN THE INDUSTRIAL PROCESSES. Lesson 3. Chemical reactions in the industrial processes. Lesson 4. Kinetic and thermodynamics in chemistry.
3	BLOC III. INORGANIC CHEMISTRY IN MECHANICAL ENGINEERING. Lesson 5. Electrochemistry. Lesson 6. Inorganic chemistry in the industry.
4	BLOC IV. ORGANIC CHEMISTRY IN MECHANICAL ENGINEERING. Lesson 7. Carbon chemistry. Lesson 8. The oil industry. Lesson 9. Organic products of industrial interest.

7. ASSESSMENT METHODS AND CRITERIA				
Description	Type	Final Eval.	Reassessn	%
Written exam.....50%; Minimum mark 5.0	Written exam	No	Yes	50,00
Written exam.....40%; Minimum mark 4.0	Written exam	No	Yes	40,00
Work in groups consisting on portfolio of ppt presentations and oral defense; 10% (a minimum attendance of 70% to the practical sessions is mandatory)	Work	No	No	10,00
<b>TOTAL</b>				<b>100,00</b>
<b>Observations</b>				
<p>In case of normal teaching or simultaneous remote and presential teaching, the evaluation will be considered the following conditions:</p> <ol style="list-style-type: none"> <li>1) The continuous assessment requires the completion of THREE TESTS OF EVALUATION: PO1, PO2, CP.</li> <li>2) These activities can be passed individually on the GLOBAL TEST (ordinary exam)</li> <li>3) It is required a minimum grade of 5.0 on test PO1 and 4.0 on test PO2 to pass the course through continuous assessment.</li> <li>4) In the examination in the extraordinary call there will be a SINGLE global test of the subject.</li> <li>5) The mark of the CPs work will be considered for ordinary and extraordinary exam calls</li> </ol> <p>In case of sanitary emergency, the exams and works will be adapted by the use of remote teaching tools. The written exams will be substituted by short multiple choice questionnaires: 2 for PO1 and 3 for PO2. In the CPs group work, the oral defense will be omitted. It will apply the rest of requirements and rules as in normal situation.</p>				
<b>Observations for part-time students</b>				
Part time students can do a single global test including questions of Practical Case Studies				

**8. BIBLIOGRAPHY AND TEACHING MATERIALS**

## BASIC

Chang R., "Química", 10ª ed., McGraw-Hill. México (2010).

Petrucci R.H., "Química General", 8ª ed., Prentice Hall, Madrid (2003).

Brown, S., Holme T.A., "Química: La ciencia central", 9ª ed.. Pearson Education, México (2004)