

## SUBJECT TEACHING GUIDE

### G773 - Electrical Engineering

#### Degree in Chemical Engineering First Degree in Chemical Engineering

Academic year 2024-2025

1. IDENTIFYING DATA					
Degree	Degree in Chemical Engineering First Degree in Chemical Engineering			Type and Year	Compulsory. Year 3 Compulsory. Year 3
Faculty	School of Industrial Engineering and Telecommunications				
Discipline	Subject Area: Electricity, Electronics, Automation and Control Methods Module: Compulsory Training in Common with the Industrial Branch				
Course unit title and code	G773 - Electrical Engineering				
Number of ECTS credits allocated	6	Term	Semester based (1)		
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. INGENIERIA ELECTRICA Y ENERGETICA				
Name of lecturer	FERNANDO DELGADO SAN ROMAN				
E-mail	fernando.delgado@unican.es				
Office	E.T.S. de Ingenieros Industriales y de Telecomunicación. Planta: - 2. DESPACHO PROFESOR (S2030)				
Other lecturers	FRANCISCO JAVIER LOPEZ GUTIERREZ				

### 3.1 LEARNING OUTCOMES

- - Solving basic electrical problems.
- - Ability to apply the knowledge acquired in the workplace.

### 4. OBJECTIVES

- To provide students with a basic electrotechnical knowledge.
- To train students for professional career.

6. SUBJECT PROGRAM	
CONTENTS	
1	SECTION I. Electrical circuits
1.1	Basic knowledge of electricity, magnetism and electrical circuits
1.2	DC Electrical circuits
1.3	AC Electrical circuits. Single and three phase circuits
2	SECTION II. Electrical machines
2.1	Basic knowledge of electrical machines
2.2	Single and three phase transformers
2.3	Asynchronous machines
3	SECTION III. Industrial mechanims
3.1	Basic components of the industrial mechanims
3.2	industrial automation systems

7. ASSESSMENT METHODS AND CRITERIA				
Description	Type	Final Eval.	Reassessn	%
Continuous evaluation It is needed to attend 80% of the in-class activities to be evaluated in this way. Students must pass Evaluations 1 and 2, needing to obtain in both evaluations a grade equal or higher than 4 points out of 10 in order to pass the cou	Written exam	No	Yes	50,00
Final evaluation Those students who have not attended the in-class activities or have not passed the continuous assesment can attend to the final exam. To pass the subject in this test, it is needed to get a grade equal or higher than 5 out of 10.	Written exam	Yes	Yes	40,00
Performing lab memory can add 1 point to the final grade.	Laboratory evaluation	No	No	10,00
<b>TOTAL</b>				<b>100,00</b>
<b>Observations</b>				
Course can be passed in two ways: 1- Continuous assessment Attendant greater than 80% to face-to-face activities.				
<b>Observations for part-time students</b>				
The assessment of the part-time students will be carried out according the Assessment Regulation of the UC				

**8. BIBLIOGRAPHY AND TEACHING MATERIALS**

## BASIC

Máquinas eléctricas y sistemas de potencia. Wildi, Theodore. México DF : Pearson Educación  
Electromagnetismo y Circuitos Eléctricos. Fraile, J. McGraw-Hill  
Máquinas eléctricas. Fraile, J. Fraile, J. McGraw-Hill  
Automatismos industriales. Martín, J.C. Editex