

SUBJECT TEACHING GUIDE

G773 - Electrical Engineering

Degree in Chemical Engineering

Academic year 2019-2020

1. IDENTIFYING DATA					
Degree	Degree in Chemical Engineering			Type and Year	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. COURSE ORGANIZATION	
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	%
Final exam	Written exam	Yes	Yes	60,00
Theoretical and practical solution of various electrical assemblies	Laboratory evaluation	No	Yes	20,00
Solution to questions in group	Activity evaluation with Virtual Media	No	No	20,00
TOTAL				100,00
Observations				
<p>The student will be assessed as follows:</p> <ul style="list-style-type: none"> • Two partial tests: The value of each partial test is 30% of the total grade. It is necessary to attend to the 80% of the class hours to carry out these partial tests. The student won't need to carry out the final exam if he passes these partial tests. • Laboratory practices The value of these practices is 20% of the total grade. It is necessary to attend to 80% of the laboratory practices to pass them. • Resolution of questions in group The value of these questions is 20% of the total grade. • Final exam The failed partial tests can be passed in this final exam. 				
Observations for part-time students				
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