

SUBJECT TEACHING GUIDE

G1102 - Electricity and Electrical Engineering

Degree in Maritime Engineering

Academic year 2023-2024

1. IDENTIFYING DATA					
Degree	Degree in Maritime Engineering			Type and Year	Compulsory. Year 2
Faculty	School of Maritime Engineering				
Discipline	Subject Area: Electrical Engineering Module in Common with the Naval Branch				
Course unit title and code	G1102 - Electricity and 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	JUAN ANTONIO CARDONA PARDO				
E-mail	juan.cardona@unican.es				
Office	E.T.S. de Náutica. Planta: + 2. DESPACHO (240)				
Other lecturers	ALBERTO LASO PEREZ				

3.1 LEARNING OUTCOMES
- Know how to solve problems according to the principles of electricity , circuit theory and electric machines
- Know how to solve problems according to the principles of electricity , circuit theory and electric machines
- Know how to solve problems according to the principles of electricity , circuit theory and electric machines

4. OBJECTIVES
Understand the process of energy conversion in electric machines and circuits
Analyze electric circuits in permanent and transient regime
Know the basic principles of the electric machines operation and analysis.

6. COURSE ORGANIZATION	
CONTENTS	
1	Introduction to the electric circuit theory
2	Analysis of a.c. electric circuits in permanent regime
3	Analysis of three phase electric circuits
4	Analysis of electric circuits in transient regime
5	Electromagnetism principles applied to the electric machines
6	Transformers
7	Induction machines
8	Synchronous machines
9	Direct current machines

7. ASSESSMENT METHODS AND CRITERIA				
Description	Type	Final Eval.	Reassessn	%
Partial written exams	Written exam	No	Yes	40,00
Final written exam	Written exam	Yes	Yes	40,00
Laboratory practices	Laboratory evaluation	No	Yes	20,00
TOTAL				100,00
Observations				
Final qualification = 40% of partial written exams + 40% of final written exam + 20% of laboratory practices				
In case of a COVID-19 health alarm make impossible to carry out evaluation on site, a distance evaluation will be planned				
Observations for part-time students				
Part-time students will take only one final exam with 100% of the qualification				

8. BIBLIOGRAPHY AND TEACHING MATERIALS
BASIC
Material suministrado al alumno en el Aula Virtual de la asignatura
Jesús Fraile Mora " Circuitos Eléctricos" ,2ª ed , Pearson, Madrid 2019
Jesús Fraile Mora "Máquinas Eléctricas", 8ª ed , Garceta, 2016, Madrid