

[GJI203] ELECTROMECHANICAL SYSTEMS

GENERAL INFORMATION

Studies	DEGREE IN MECHATRONICS ENGINEERING	Subject	?
Semester	1	Course	3
Character	COMPULSORY	Mention / Field of specialisation	
Plan	2022	Modality	Face-to-face
Credits	6	Language	EUSKARA/CASTELLANO/ENGLISH
		Total hours	94 class hours + 56 non-class hours = 150 total hours

2030 AGENDA GOALS



PROFESSORS

ARANA OSTOLAZA, AITOR
UNAMUNO RUIZ, ENEKO
ELGUEZABAL LAZCANO, JON
LOPEZ RAMIREZ, IZAR

REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
GRAPHIC EXPRESION	[!] <i>Conocimientos teóricos sobre sistemas trifásicos y máquinas eléctricas</i>
FOUNDATIONS OF ELECTRICAL ENGINEERING	
PHYSICS	
MECHANICAL SYSTEMS	
FOUNDATIONS OF ELECTRICAL ENGINEERING	

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
GJR303 - To know and apply the principles of theory of machines and transmission mechanisms, electrical drives and their applications			x	5,08
G-RTR1 - To develop interdisciplinary projects specific to their specialty and of gradual complexity, - becoming aware of respect for human rights and fundamental rights, and analyzing and assessing the impact of the proposed solutions on the SDGs - to acquire and/or apply basic, advanced and/or avant-garde, demonstrating the ability to work in multidisciplinary teams and/or undertake further studies with a high degree of autonomy		x		0,44
G-RTR2 - To express information, ideas and the arguments that support them in an orderly, clear and coherent manner, orally and in writing, based on quality information, self-made or obtained from different sources, using inclusive and non-discriminatory language		x		0,48

Total: 6

KC: Knowledge or Content / SK: Skills / AB: Abilities

CONTENTS

Mechanical systems1. Overview of mechanical transmission systems2. Modeling of kinematic chains3. Dimensioning of machine elementsElectrical drives1. Mechanical load types and electrical drive dimensioning2. Direct current electric drives3. Alternating current electric drives

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
[!] <i>Consultas en páginas web relacionadas con el tema</i>	Peter R.N. Childs, "Mechanical design engineering Handbook"
[!] <i>Plataforma Moodle</i>	Steven R. Schmid, Bernard J. Hamrock, Bo O. Jacobson, "Fundamentals of Machine Elements"
[!] <i>Transparencias de la asignatura</i>	J. Fraile Mora, J. Fraile Ardanuy, "Accionamientos eléctricos"
[!] <i>Realización de prácticas en ordenador</i>	W. Leonhard, "Control of Electrical Drives"
	http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_Ink.pl?grupo=MECATRONICA31&ejecuta=5&_ST