[GAI204] ELECTRIC POWER CONVERSION

GENERAL INFORMATION

Studies	DEGREE IN ENERGY ENGINEERING			**Subject**	?
Semester	1	**Course**	3	**Mention / Field of specialisation**	
Character	COMPULSORY				
Plan	2022	**Modality**	Face-to-face	**Language**	ENGLISH
Credits	6	**Hours/week**	2.72	**Total hours**	49 class hours + 101 non-class hours = **150 total hours**

PROFESSORS

AIZPURU LARRAÑAGA, IOSU

REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
(No specific previous subjects required)	Basics electronics Matlab/Simulink

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
GAR304 - Applies power electronics to the design of direct and alternating current converters		*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

0. Introduction1. Power analysis.1.1 DC and STEADY STATE.1.2 Single-phase and three-phase.1.2.1 Sinusoidal and non-sinusoidal.2. AC/DC converters2.1 Not controlled.2.2 Single-phase and three-phase.3. DC/DC converters3.1 Not isolated.3.2 Isolated.4. DC/AC converters4.1 Single-phase and three-phase.4.2 Modulation techniques.SIMULATION WORKANALYSIS OF THE BEHAVIOR OF AN ELECTRIC OVEN IN A HOUSE WITH A DC GRIDLABWORKANALYSIS OF SINGLE-PHASE AND THREE-PHASE AC-DC CONVERTERSANALYSIS OF DC-DC BUCK AND BOOST CONVERTERS

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Subject notes Moodle Platform Class presentations Programmes Lab practical training Slides of the subject	http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_lnk.pl?grupo=ENERGIA31&ejecuta=15