Goi Eskola Politeknikoa Escuela Politécnica Superior

IMGB1021 THERMAL ANALYSIS			
GENERAL INFORMATION			
Studies UNIVERSTIY MA	ASTER IN ENERGY AND POWER	Subject	ADVANCED ELECTRICAL ENERGY TECHNOLOGIES AND PRINCIPLES
Semester 1	Course 1	Mention / Field of	
Character COMPULSORY Plan 2015	Modality Adapted		CASTELLANO
	Face-to-face		
Credits 3	Hours/week 2.33	Total hours	42 class hours + 33 non-class hours = <u>75 total</u> <u>hours</u>
PROFESSORS			
UGALDE ROSILLO, GAIZKA			
REQUIRED PREVIOUS KNOWLEDGE			
Subjects		Knowledge	
(No specific previous subjects required)		(No previous knowledge required)	
SKILLS			
SPECIFIC			
MGC11 - Knowing and applying advanced control techniques for alternating current (AC) electrical machines.			
CROSS			
MGTR10 - To share knowledge, reasoning and conclusions with specialist and non-specialist audiences in clear, unambiguous ways.			
MGTR11 - To lead work teams effectively and efficiently in order to achieve common goals.			
the right decision in a given context, taking social and ethical implications into account.			
MGTR13 - To identify product or business development opportunities, managing the human and material resources adequately.			
M_CB10 - To have learning skills and the capacity for self-guided or independent subsequent learning.			
M_CB6 - To have and understand knowledge which provides a base or opportunity to be original in the development and/or application of ideas often in an investigation context			
M_CB7 - To know how to apply the acquired knowledge and competencies and the ability to solve problems in new or unfamiliar contexts			
within wider (or multidisciplinary) environments related to their field of study			
partial or limited, includes ideas on the social and ethical responsibilities associated with the application of knowledge			
M_CB9 - To share knowledge, conclusions and their rationale with specialised and lay audiences in a clear, unambiguous manner			
CONTENTS			
Heat transfer theory			
Concepts			
Conduction and heatsink			
Convection			
Radiation			
Aplications			
Battery packs			
Electric machines			
Semiconductors and power electronics			
l earning r		S AND BIBLIOG	Bibliography



Course: 2023 / 2024 - Course planning

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Moodle Platform Subject notes J.H.Lienhard, A heat transfer textbook, Phlogiston Press, 2016 F. P. Incropera, D. P. De Witt; Fundamentos de transferencia de Calor; PHH; 2015; ISBN: 9789701701706

P. Fernández Díez; Ingeniería térmica y de fluidos; Servicio de publicaciones de la Escuela T. Superior de Ingenieros Industriales y de Telecomunicación, Universidad de Cantabria; 1992; ISBN: 84-600-8244-X

Y. A. Çengel, A. J. Ghajar; Transferencia de calor y masa : fundamentos y aplicaciones; McGraw-Hill; 2011; ISBN: 9786071505408