[MGF102] MODELING AND ANALYSIS OF ELECTRIC MACHINES

GENERAL INFORMATION

Studies	UNIVERSTIY MASTER IN ENERGY AND POWER ELECTRONICS			**Subject**	ELECTRICAL MACHINERY DESIGN, MODELLING AND ANALYSIS
Semester	1	**Course**	1	**Mention / Field of specialisation**	
Character	COMPULSORY				
Plan	2015	**Modality**	Adapted Face-to-face	**Language**	CASTELLANO
Credits	5	**Hours/week**	3.33	**Total hours**	60 class hours + 65 non-class hours = **125 total hours**

PROFESSORS

POZA LOBO, FRANCISCO JAVIER

REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
(No specific previous subjects required)	*(No previous knowledge required)*

SKILLS

VERIFICA SKILLS

SPECIFIC

MGC08 - Acquiring knowledge and skills for the use of design tools and the analysis of electric machines.

MGC10 - Performing the dynamic and electromagnetic modelling of electric 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.

MGTR12 - To analyse complex information and situations in the field of study, considering several solutions for each problem and making 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.

BASIC

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

M_CB8 - To be able to integrate different types of knowledge and make complex judgements based on information that, in spite of being 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

1.- Vector Modeling Concepts of Electrical Machines

2.- Asynchronous Machine Modeling / Analysis

3.- Synchronous Machine Modeling / Analysis

4.- AC Machines Vector Modeling

5.- Torque /Speed Estimators

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Subject notes	Electrical Machines and Drives: A Space-Vector Theory Approach (Monographs in Electrical and Electronic Engineering); Peter Vas; Editorial: Clarendon Press