29623 - Electrical Machines II

Información del Plan Docente

Academic Year	2016/17
Academic center	110 - Escuela de Ingeniería y Arquitectura
Degree	430 - Bachelor's Degree in Electrical Engineering
ECTS	6.0
Course	3
Period	First semester
Subject Type	Compulsory
Module	---

1.Basic info

1.1.Recommendations to take this course

1.2.Activities and key dates for the course

2.Initiation

2.1.Learning outcomes that define the subject

2.2.Introduction

3.Context and competences

3.1.Goals

3.2.Context and meaning of the subject in the degree

3.3.Competences

3.4.Importance of learning outcomes

4.Evaluation

5.Activities and resources

5.1.General methodological presentation

The purpose of the Electric Machines II course is to study synchronous machines as most electric generators are of this kind, as well as DC machines because their use and their regulation are very important in the industry.

5.2.Learning activities

An important part of the basic contents is taught in class in a traditional way. They are three hours of lectures per week, and during the lectures the basic knowledge is delivered to the students.

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Problems and case studies will be developed in the classroom, that contributes extensively to guiding the learning process of the students.

Problems and case studies will be proposed to the students, as an important way of learning. The tutorial sessions are used for clarifications and understanding difficult concepts.

Students will experience the operation of the electric machines in the laboratory. A guideline for each practice lab has been created. These guidelines are available in the ADD.

There are also two quizzes and a three-hour final exam.

5.3.Program

Synchronous Machines:

Synchronous machine models. Active and reactive power. P-Q capability diagram. Performance as a motor. Transient analysis.

Direct Current Machines:

Armature winding. Load operation. Performance of DC generators. Performance of DC motors.

5.4.Planning and scheduling

5.5.Bibliography and recomended resources

Bibliography can be found in http://psfunizar7.unizar.es/br13/eGrados.php?id=220