

30014 - Basic principles of electrical technology

Información del Plan Docente

Academic Year	2016/17
Academic center	110 - Escuela de Ingeniería y Arquitectura
Degree	436 - Bachelor's Degree in Industrial Engineering Technology
ECTS	6.0
Course	2
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

This course presents the Circuit Theory as a fundamental technique to describe and analyze most of the fields of Electrical and Electronic Engineering. It has an instrumental orientation so Circuit Theory is studied by itself. Electrical/Electronic courses in the following semesters will use it to analyze real engineering problems. Despite this, the course also has an applied character, hence in its development some of the basic problems of the Electrical Engineering are presented.

From the experimental point of view, the course provides the skills needed for the use of measuring instruments of the basic electrical quantities.

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

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The methodology of the course has been designed on the basis that the course is at the beginning of the syllabus set of electrical/electronic courses and hence it will be followed by a wide range of students. The number of credits assigned by the syllabus to the course imposes optimize the quantity and quality of knowledge that students should acquire with it. Theoretical concepts and practical problems will be taught in the 3 hours a week lectures. Several laboratory sessions will serve to link theory with practice and a way to learn the use of basics measurement instruments. However, to encourage students continuous work, as well as to gain feedback about the learning outcomes acquired by them, several assessment tasks and activities will be scheduled throughout the semester.

5.2.Learning activities

5.3.Program

- 1.- Fundamental quantities and elements of circuit
- 2.- Direct current circuits. Analysis methods
- 3.- Steady state in AC circuits
- 4.- Ideal magnetic coupling
- 5.- Power in AC circuits

- 6.- Introduction to three-phase systems

5.4.Planning and scheduling

5.5.Bibliography and recommended resources