

29642 - Electrical Measurements

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	4
Period	Second semester
Subject Type	Optional
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

Brief presentation of the subject

In general, instruments and measurement techniques have been taught in the introductory courses of the degree of Electrical Engineering. This course aims to deeply review the various problems that arise in real measurement procedures: Uncertainties associated with the measurement procedures, characterization of the instruments used in electrical measures and their limitations and methodologies, computer-controlled measurements. Additionally any physical, both electrical and non-electrical quantity can be acquire by sensors that transform it to an electrical quantity. In this sense, the course aims to address a broad review of the different types of sensors that are regularly employed in industry. The course is strongly oriented towards using real instruments in the laboratory while it is also complemented with theoretical foundations in classroom.

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

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5.1. General methodological presentation

The methodology of the course is based on the following:

Classroom lectures
Laboratory sessions
Written reports
Problem solving

5.2. Learning activities

5.3. Program

- 1.- Sensors
- 2.- Measuring Instruments: Digital multimeters, oscilloscopes, current clamps
- 3.- Uncertainty
- 4.- Computer based measurements. SCPI

5.4. Planning and scheduling

5.5. Bibliography and recommended resources

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