Universidad Zaragoza

Academic Year/course: 2021/22

31008 - Switching power supplies

Syllabus Information

Academic Year: 2021/22
Subject: 31008 - Switching power supplies
Faculty / School: 110 - Escuela de Ingeniería y Arquitectura
Degree: 581 - Bachelor's Degree in Telecomunications Technology and Services Engineering
ECTS: 6.0
Year: 4
Semester: First semester
Subject Type: Optional
Module:

1. General information

2. Learning goals

3. Assessment (1st and 2nd call)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The learning process designed for this subject is based on the following:

? The teaching process will involve three main levels: lectures, laboratory problems and, active student participation.
? In the lectures the theoretical basis of electronic power supplies will be exposed.
? In the classes of problems the students will develop worked-out examples
? The laboratory practices will be developed in small groups where students perform computer simulations and assembly of electronic power supplies.

4.2. Learning tasks

The program offered to the student aims to help him achieving the expected results and includes the following activities ...

CLASS WORK: 2.4 ECTS (60 hours)

1) Theoretical classes (30 hours).

Keynote sessions presentation of theoretical contents. The concepts and fundamentals of electronic power systems, illustrating them with examples will be presented. The student participation is demanded through questions

2) problem solving classes (15 hours).

Problems and cases involving students, coordinated at all times with the theoretical contents will be developed. Students are encouraged to work the problems previously.

3) Laboratory practicum (15 hours).

It will consist both assembly and computer simulation of electronic power supplies. The student will have a script for each practice.

TAKE-HOME WORK: 3.6 ECTS (90 hours)

4) Student assignements (24 hours).

They are activities that the student will perform alone or in groups and that the teacher will propose throughout the teaching period.

5) Study (62 hours).

The ongoing work of the student will be encouraged by the homogeneous distribution throughout the semester of the various learning activities.

6) Evaluation tests (4 hours).

In addition to the assessment function, it is also a learning tool with which the student checks the degree of understanding and assimilation reached.

4.3. Syllabus

The contents developed in the classroom are as follows:

? Introduction to power supplies.
? Linear power supplies.
? Switching Power supplies: generalities.
? Non-isolated switching power supplies.
? Isolated switching power supplies.
? Active components.
? Passive components: capacitors.
? Passive components: magnetic components.

4.4. Course planning and calendar

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course, will be provided on the first day of class or please refer to the EINA website.

4.5. Bibliography and recommended resources

http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=31008