Login

Politecnico di Torino

Academic Year 2008/09 (first time established in A.Y.2007/08)

01LSRJA

Electronics III

1st degree and Bachelor-level of the Bologna process in Electronic And Computer Engineering - Vercelli (II FACOLTA' DI INGEGNERIA)

Teacher	Status	SSD	Les	Ex	Lab	Years Stability

SSD	CFU	Activities	Area context
ING-INF/01	5	D - A scelta dello studente	A scelta dello studente

Objectives of the course

In this course the most relevant problematic concerning the field of the Power Electronic will be dealt with. In particular, focus will be given to the most used scheme for the AC-DC and DC-DC power conversions.

Expected skills

Acquire acquaintance with the problematic of the circuits and systems for power applications also concerning the EMC aspects. Achieved competences on the design of power circuits.

Prerequisites

Electronic courses.

Syllabus

First of all the classical AC-DC linear dissipative power supplies, based on the chain transformer, rectifier, and stabilizer will be analyzed, and then practically implemented during the experimental labs. After that the DC-DC buck, boost, buck-boost and fly-buck configuration will be investigated; also in this case the hours spent in the labs will integrate the theory seen during the lectures. The study of the most used high and low switch configuration will complete the course. All the examples presented will be investigated also concerning the EMC problems.

Laboratories and/or exercises

Exercises to apply the theory seen during the lesson hours.
Experimental labs where the most important circuits studied during the lesson hours will be implemented and measured.

Bibliography

The material supplied by the teacher will cover all the lectures; as a further support, the book ''Power Electronics'' by Mohan, Undeland and Robbins, edited by Wiley (Egn. Version) and Hoepli (It. version) can be consulted.

Revisions / Exam

The examination will be based on a written and oral test. The final score will also be based on the evaluation of the lab reports on the carried out experiments, that will represent a key part of the course.

Programma definitivo per l'A.A.2008/09

BACK

m@il