Politecnico di Torino

Academic Year 2010/11 (first time established in A.Y.2007/08)

01LSVJA

Fundamentals of Electromagnetic Compatibility

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

Teacher	Status	SSD	Les	Ex	Lab	Years Stability
Canavero Flavio	PO	ING-IND/31	5	0	0	2

SSD	CFU	Activities	Area context
ING-INF/02	5	D - A scelta dello studente	A scelta dello studente

Objectives of the course

This course provides the essential understanding for the reliable design and operation of electrical/electronics equipment and systems employed in several markets (for example consumer, automotive, aerospace). The knowledge acquired in this course helps managing EMC and achieving EMC compliance with specifications and standards (a legal requirement to sell or operate electronic equipment or systems within the European Economic Area.

Expected skills

After completion this course, students will be able to understand the basic concepts of EMC, and will know the basic techniques for improving the design of electrical and electronic products.

Prerequisites

Fundamentals of electromagnetics and digital and analogue electronics.

Syllabus

Overview of the history of EMC; the 'language' of EMC; EMC requirements.
Frequency analysis concepts, including signal spectra, broadcast bands, spectrum
Analyzers.
Frequency-dependent nature of circuit components; crosstalk; shielding.
Radiated emissions and susceptibility.
EMC antennas and measurement facilities.
Electrostatic discharge (ESD).

Laboratories and/or exercises

Measurements demonstrations and case studies. Seminars of industry specialists in design and testing of electronic products.

Bibliography

Henry W. Ott "Noise Reduction Techniques in Electronic Systems,"2nd Edition, John Wiley & Sons, 1988.

Revisions / Exam

Written examination plus oral discussion.

Programma definitivo per l'A.A.2010/11

BACK