Politecnico di Torino

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

02LTJJA

Electronic measurements

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
De Marchi Andrea	PO	ING-INF/07	4	0	2	2

SSD	CFU	Activities	Area context
ING-INF/07	6	B - Caratterizzanti	Ingegneria elettronica

Objectives of the course

Students will learn the basics of modern metrology, with particular reference to electronic measurements. The course begins with an introductory part on metrology, systems of units, standards, and evaluation of measurement uncertainty. During the second part, a number of important electronic instruments will be analyzed in detail.

Expected skills

At the end of the course, the student should be able to estimate the measurement uncertainty in simple applications.

Prerequisites

Fundamental of Electrotechnics I and II, Applied Electronics.

Syllabus

Introduction to measurements. Estimating measurement uncertainties.
Analog ammeters and voltmeters. The analog multimeter.
Oscilloscopes and oscilloscope probes.
Time interval, period, and frequency counters.
Digital voltmeters: specifications, dual slope conversion, voltage-to-frequency conversion.

Laboratories and/or exercises

Exercise sessions will be held in classes. During laboratory sessions, students will practice with oscilloscopes, AC voltmeters and digital voltmeters.

Bibliography

References will be given during the course.

Revisions / Exam

Written and oral examination: details will be given in classes.

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

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