

DESCRIPTION OF THE EDUCATIONAL ACTIVITY

Academic year: **2010-2011**

Course title: **Industrial Measurements**

Course number:

Type of educational activity: **compulsory subject**

Subject Group: **ING-IND/13**

Year of study: **3rd year "Laurea" (B.Sc. Mech Eng) – 1st year "Laurea Magistrale" (M.Sc. Manag Eng)**

Semester: **1st**

Total number of credits: **6**

Global workload (n. of hours) : **150**

Number of hours allocated to: lectures, tutorials, laboratory, individual study: **30, 15, 15, 90**

Name of lecturer:

Objectives of the course: **To give to the students the proper knowledge about the main measurement techniques and analysis tools to operate in industrial environment.**

Prerequisites: **Basic knowledge of Dynamics of Machine Systems.**

Course contents:

Standards and units. Basics of measurement theory. Error and uncertainty. EN ISO 10012 and measurements/instruments management. Static features of the instruments. Resolution, sensitivity. Time-dependent characteristics of instruments. Linear systems of the first and second order. Basic elements of statistics. Exclusion criterions. The Chi-Squared test. Displacement and position measurement. Measurement of vibrations, strain, force, torque, temperature.

Recommended reading: **F. Angrilli "Corso di Misure Meccaniche, Termiche e Collaudi" CEDAM
E. O. Doebelin "Strumenti e metodi di misura" McGraw-Hill
Notes from lectures**

Teaching methods: **lectures, exercises, laboratory applications**

Assessment methods: **written and oral examination**

Language of instruction: **Italian (during office hours: available in English)**

Additional information: