Course title: Measurement Data Acquisition Systems

Course – No. S-EM (EDT4)

Semester 8

Course Type: Lecture + Laboratory

Hours/Semester/WS/SS 30L+15Lb/SS

Number of credit 5

Lecturer:
Professor Mykhaylo Dorozhovets, DSc

Institute/Department:
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Status of the course in the study program:
Obligatory course of the study programs for the Electrical Engineering (for one specialization: Computerized Information and Measurement Systems).

Course description:
Lectures: Basic information about measurement data acquisition systems and their main structures. Measurement board as a data acquisition system, the metrological parameters of universal measurement board. Examples of measurement boards and modules of different firms. The structures and parameters of the VXI and PXI module data acquisition systems. The measurement data transmission, serial (RS, USB and other) and parallel (IEC-625) interfaces. Wireless measurement data transmission (IrDA, Bluetooth, mobile telephone systems).
Laboratory: Configuration of measurement channels of the uMAC1060 systems, interface IEEE-488.2, multi-meters (for example SOLARTRON 7065) as the data acquisition systems, measuring signal registration using LabView, investigation of board PCL-712 w in VisiDAQ, calibration measurement data acquisition systems.

Objectives of the course:
Student should obtain knowledge of some methods and structures of measurement data acquisition systems, their main parameters, of methods of the measurement data transmissions.

Teaching methods: Lectures supported by slides and.

Prerequisites:
Basic knowledge of electronic devices, metrology and information measuring systems.

Teaching aids:
Slides, transparencies, product catalogs of the different firms (NI, Keithley, Advantech, IOtech and others), instruction for laboratory.

Examination method: Written and oral examinations.

Registration for course: No

Registration for examination: According to schedule