

Title <b>Metrology and Measuring Systems</b>	Code <b>1010315321010320852</b>
Field <b>Power Engineering</b>	Year / Semester <b>1 / 2</b>
Specialty -	Course <b>core</b>
Hours Lectures: <b>8</b> Classes: -    Laboratory: <b>8</b> Projects / seminars: -	Number of credits <b>3</b>
	Language <b>polish</b>

**Lecturer:**

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**Status of the course in the study program:**

Obligatory course, Faculty of Electrical Engineering, field Energetics.

**Assumptions and objectives of the course:**

Knowledge of measurement methodology, attributes of modern measuring instrumentation and equipment, principles of using analog and digital measuring devices, and evaluation of measurement results. Knowledge of operation principles, design and application of measuring systems.

**Contents of the course (course description):**

Methodology of measurements. Kinds of experiments. Planning and realization of measurements. Uncertainty of measurement results. Static and dynamic properties of measuring devices. Measurement methods. Measuring converters: alternating voltage detectors, measuring amplifiers, A/D and D/A converters. Analog and digital measurements of electrical quantities. Measurements with oscilloscopes. Introduction to measuring systems. Properties of selected communication interfaces. Examples of wired and wireless configurations of measuring systems. Examples of measurements of electrical and nonelectrical quantities and evaluation of their results.

**Introductory courses and the required pre-knowledge:**

Fundamentals of mathematics, physics, metrology, electrical and electronic engineering.

**Courses form and teaching methods:**

Lectures, projects.

**Form and terms of complete the course - requirements and assessment methods:**

Test after the course lectures and reports on laboratory exercises.

**Basic Bibliography:**

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**Additional Bibliography:**

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