Title	Code
Research of the drive systems in mechatronics	**10103222310103201284**
Field: **Electrical Engineering**	Year / Semester: **2 / 3**
Specialty: **Mechatronic Electric Systems**	Course: **core**
Hours: Lectures: **1** Classes: **-** Laboratory: **1** Projects / seminars: **-**	Number of credits: **0**
	Language: **polish**

Lecturer:

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Status of the course in the study program:

Obligatory subject, Faculty of Electrical Engineering, Field: Electrical Engineering, Specialty: Mechatronic Electric Systems, Full-time second-degree studies.

Assumptions and objectives of the course:

Deepening the knowledge of the legal conditions of release to service electrical drive systems. Understanding the interference emitted to the environment. Knowledge of modern research methods and measurement systems of selected electrical and mechanical quantities. Acquisition of knowledge on methods to eliminate the risks associated with the operation of electric drivers.

Contents of the course (course description):

Legal acts admit the drive systems for operating (Polish Norm, European Union Standards). Measuring methods of forces, mechanical stresses, torque, moment of inertia, rotational speed and slip in electromechanical and magnetical devices. Determination of characteristic quantities of electromagnetic field. Heat sources in mechatronic drive systems and methods of removal them. Measure of temperature rise. Ventilation systems. Sources of acoustic perturbation and mechanical vibration. Measure of vibration and noise generated by mechatronical devices. Electromechanical compatibility problems in the drive systems.

Introductory courses and the required pre-knowledge:

Basic knowledge of physics, electromagnetic field theory, construction and principle of mechatronic systems, metrology methods.

Courses form and teaching methods:

Lectures supported by audio-visual presentation, laboratory exercises in measuring methods of selected electrical and non-electrical values.

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

Verification of knowledge during laboratory exercises and written test.

Basic Bibliography:

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Additional Bibliography:

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