

Title New Technology in Electromechanics	Code 10103222310103201117
Field Electrical Engineering	Year / Semester 2 / 3
Specialty Mechatronic Electric Systems	Course core
Hours Lectures: 1 Classes: - Laboratory: - Projects / seminars: -	Number of credits 0
	Language polish

Lecturer:

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Faculty:

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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:

The student should obtain knowledge of: operation principle, construction and design methods of different electromagnetic converters. He should learn about modern applications of magnetic phenomena.

Contents of the course (course description):

Superconductivity and its applications, magnetic separators, magnetic levitation, magnetic bearings. Electrotechnology. Structure and properties of magnetic fluid. Magnetic fluid applications. Mechatronic elements: sensors and actuators. Microelectromechanical systems (MEMS): microsensors, microactuators, silicon technology applications. Nanotechnology, nanomachines

Introductory courses and the required pre-knowledge:

Basic knowledge of the electrical machines and the magnetic field

Courses form and teaching methods:

Lectures supported by transparencies, laboratory, computer exercises

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

Tests, computer software elaborating

Basic Bibliography:

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Additional Bibliography:

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