

Title (Maszyny elektryczne w automatyce i robotyce)	Code 1010334141010320214
Field Control Engineering and Robotics	Year / Semester 2 / 4
Specialty -	Course core
Hours Lectures: 3 Classes: - Laboratory: 1 Projects / seminars: -	Number of credits 7
	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: Automatics and Robotics, Extramural first-degree studies

Assumptions and objectives of the course:

The student should obtain knowledge of the constructions, performances and mathematical models of transformers, induction motors, synchronous motors, commutator machines and electronically commutated motors.

Contents of the course (course description):

Magnetic circuits. Transformers: equivalent circuit, transformer on load, three-phase transformers. Rotating machines-basic concepts: rotating magnetic field, electromotive force, winding factors. Induction machines: basic theory and construction, equivalent circuit, speed-torque curves, squirrel-cage rotor, speed control. Single-phase motors. Synchronous machines: basic theory and construction, phasor diagram, steady state operating characteristics, effect of salient poles, permanent magnet machines, starting of synchronous motors. Direct current commutator machines: basic theory and construction, commutation, armature reaction, motor characteristic, motor speed control. Alternating current commutator motors. Stepper motors. Brushless direct current motors.

Introductory courses and the required pre-knowledge:

Basic knowledge about electrical and magnetic circuits theories.

Courses form and teaching methods:

Lectures supported by multimedia.

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

Examination.

Basic Bibliography:

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Additional Bibliography:

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