

Title Electronics	Code 1010331141010330287
Field Control Engineering and Robotics	Year / Semester 2 / 4
Specialty -	Course core
Hours Lectures: 2 Classes: - Laboratory: 2 Projects / seminars: -	Number of credits 6
Language polish	

Lecturer:

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Faculty:

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Status of the course in the study program:

Electronics

Assumptions and objectives of the course:

Knowledge concerning principles of operation of power electronics converters, rectifiers, AC/AC converters, AC/DC converters and inverters.

Contents of the course (course description):

Lectures: Introduction to power electronics. Overview of power semiconductor switches. Line-frequency phase commutated converters: analysis, simplified energy and signal models. Switch-mode converters: analysis , averaged models. DC/DC converters, inverters. Resonant converters. Power supply applications. Electric utility applications. Current harmonics. Developmental prospects of power electronics: new types of devices, "intelligent" modules.

Laboratory: thyristor phase controlled rectifiers , switch-mode DC/DC converters , inverters.

Introductory courses and the required pre-knowledge:

-Basic knowledge of the theory of electric circuits

Courses form and teaching methods:

-Lectures , laboratory exercises

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

-Written examination, evaluation of laboratory reports .

Basic Bibliography:

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Additional Bibliography:

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