

Title Electrical engineering	Code 1010101251010310354
Field Environmental Engineering First-cycle Studies	Year / Semester 3 / 5
Specialty -	Course core
Hours Lectures: 2 Classes: - Laboratory: 1 Projects / seminars: -	Number of credits 4
	Language polish

Lecturer:

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Status of the course in the study program:

obligatory

Assumptions and objectives of the course:

Familiarity with basic electric devices, applied in environmental protection and building automation, from practice and designing points of view

Contents of the course (course description):

Conductors and insulating materials. Direct current circuit, current and voltage source, node, branch, active and reactive elements. Alternating current (single and three-phase). Asynchronous and stepper motor; structure and mechanical characteristics, rotation speed control. Transformers. Semiconductor devices: transistor, thyristor, triac, rectifiers. Photoelectric devices. AC/AC converters. Logic devices and signal amplifiers. Measurement of voltage, current, power and energy. Measurements of non electric values- devices and methods. Electrical lighting. Electric wiring system and devices. Installations of intelligent buildings: control, monitoring and visualization. Electric anti shock protection. Electric assembly for energy preservation. Energy quality. Chosen EC standards and safety exploitation of electric devices.

Introductory courses and the required pre-knowledge:

Fundamentals of physics.

Courses form and teaching methods:

Lectures supported by audio-visual devices.

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

Passing the written test.

Basic Bibliography:

Additional Bibliography: