Poznan University of Technology
Faculty of Electrical Engineering

European **C**redit **T**ransfer **S**ystem

Title **Power Electronics**	Code **1010334131010330209**
Field **Control Engineering and Robotics**	Year / Semester **2 / 3**
Specialty **-**	Course **core**
Hours Lectures: **3** Classes: **-** Laboratory: **2** Projects / seminars: **-**	Number of credits **8**
	Language **polish**

Lecturer:

dr inż. Jan Deskur
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Faculty:

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Status of the course in the study program:

Power 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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