Title	Code
Electronics and power electronics	**1010325211010320432**
Field: **Electrical engineering**	Year / Semester: **1 / 1**
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 subject, Faculty of Electrical Engineering, Field: Electrical Engineering, Extramural undergraduate studies (MEng)

Assumptions and objectives of the course:

To develop the understanding and skills required to perform the analysis and design of selected electronic circuits. To provide the understanding of the operation of switch-mode converters. To introduce the principles of pulse-width modulation and other methods used in the control of converters .

Contents of the course (course description):

Active filters design. Nonlinear applications of operation amplifiers. Timing circuits: principles of analogue and digital timing, integrated circuit timers. Analog-to-digital and digital-to-analog converters. Semiconductor memories.

Full controlled, forced commutated dc-to-ac converters. Switch-mode dc-to-dc converters. Switched-mode dc power supplies. Modulation categories. Pulse-width-modulated inverters of voltage-source and current-source types

Introductory courses and the required pre-knowledge:

Basic knowledge of electrical engineering, electronics and power electronics

To provide basic understanding of the operation of switch-mode converters. To introduce the principles of pulse-width modulation and other methods used in the regulation of converters.

Courses form and teaching methods:

Lectures supported by transparencies, project, laboratory classes.

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

Tests, written and oral examination.

Basic Bibliography:

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Additional Bibliography:

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