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| FACULTY: | **Faculty of Electronics and Computer Science** |
| FIELD OF STUDY: | **Electronics and Telecommunications** |
| ERASMUS COORDINATOR OF THE FACULTY: | Marcin Walczak, PhD |
| E-MAIL ADDRESS OF THE COORDINATOR: | marcin.walczak@tu.koszalin.pl |
| COURSE TITLE: | **Fundamentals of Power Electronics** |
| LECTURER’S NAME: | Marcin Walczak, PhD |
| E-MAIL ADDRESS OF THE LECTURER: | marcin.walczak@tu.koszalin.pl |
| ECTS POINTS FOR THE COURSE: | 2 |
| COURSE CODE (USOS): | 0711>0400-PEe |
| ACADEMIC YEAR: | 2024/2025 |
| SEMESTER: (W – winter, S – summer) | S |
| HOURS IN SEMESTER: | 30 |
| LEVEL OF THE COURSE:  (1st cycle, 2nd cycle, 3rd cycle) | 1st cycle |
| TEACHING METHOD:  (lecture, laboratory, group tutorials, seminar, other-what type?) | Lecture– 30h |
| LANGUAGE OF INSTRUCTION: | * **English full time scheme for classes with 5 and more International Erasmus+ students enrolled/accepted;** * **English 50% individually with the teacher + Polish 50% with Polish students or individual project work- scheme for classes with less than 5 International Erasmus+ students enrolled/ accepted;** |
| ASSESSMENT METOD:  (written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?) | exam |
| COURSE CONTENT: | The lecture covers the following topics:  RMS and averaged values, current and voltage harmonics and their influence on a Power Factor, basic topologies of AC/DC and DC/DC converters and their purpose in power electronics (power factor correction, maximum power point tracking, DC power supply). Moreover the lecture includes theory of modeling and control systems related to DC/DC converters. |
| ADDITIONAL INFORMATION: | Requirements: knowledge of basic electronics, electronic symbols, units and basic components (e.g. resistors, capacitors, inductors etc.).  Finished courses: theory of signals and networks |

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