



Subject card

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|---|---|--|---|-------------------------------------|--|------------|-----|
| Subject name and code | Electronic Circuit Design, PG_00038321 | | | | | | |
| Field of study | Automation, Robotics and Control Systems | | | | | | |
| Date of commencement of studies | October 2022 | | Academic year of realisation of subject | | 2022/2023 | | |
| Education level | second-cycle studies | | Subject group | | Optional subject group Subject group related to scientific research in the field of study | | |
| Mode of study | Part-time studies | | Mode of delivery | | at the university | | |
| Year of study | 1 | | Language of instruction | | Polish | | |
| Semester of study | 2 | | ECTS credits | | 4.0 | | |
| Learning profile | general academic profile | | Assessment form | | exam | | |
| Conducting unit | Department of Mechatronics and High Voltage Engineering -> Faculty of Electrical and Control Engineering | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | | prof. dr hab. inż. Grzegorz Redlarski | | | | |
| | Teachers | | | | | | |
| Lesson types and methods of instruction | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 20.0 | 0.0 | 10.0 | 0.0 | 0.0 | 30 |
| | E-learning hours included: 0.0 | | | | | | |
| Learning activity and number of study hours | Learning activity | Participation in didactic classes included in study plan | | Participation in consultation hours | | Self-study | SUM |
| | Number of study hours | 30 | | 7.0 | | 63.0 | 100 |
| Subject objectives | Acquiring knowledge and skills to independently design of simple electronic circuits and Printed Circuit Boards. | | | | | | |
| Learning outcomes | Course outcome | | Subject outcome | | Method of verification | | |
| | K7_K02 | | A student, working in a group, is able to solve basic problems in the field of designing of electronic circuits and PCBs. | | [SK1] Assessment of group work skills | | |
| | K7_U11 | | A student, using known methods and tools, can design a basic electronic circuits and PCBs. | | [SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment | | |
| | K7_W12 | | A student has basic knowledge and skills in the field of design of electronic circuits and PCBs. | | [SW2] Assessment of knowledge contained in presentation | | |
| Subject contents | Knowledge of the basic principles of design of electronic circuits. Ability to create PCB boards Implementation of the project tasks based on advanced and professional software Altium Designer. | | | | | | |
| Prerequisites and co-requisites | Basic knowledge of robotics and mechatronics. | | | | | | |
| Assessment methods and criteria | Subject passing criteria | | Passing threshold | | Percentage of the final grade | | |
| | | | 70.0% | | 70.0% | | |
| | | | 100.0% | | 30.0% | | |

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| Recommended reading | Basic literature | <p>1. Ed. Blackwell, G.R.: "The Electronic Packaging Handbook", Boca Raton, CRC Press LLC, 2000.</p> <p>2. Horowitz P. Hill W.: "The Art of Electronics" Third Edition. Cambridge University Press.</p> |
| | Supplementary literature | 1. Altium Designer Guide. |
| | eResources addresses | Adresy na platformie eNauczanie: |
| Example issues/ example questions/ tasks being completed | <p>1. The rules connected with creation of PCB for analog circuits</p> <p>2. The rules connected with creation of PCB for digital circuits</p> <p>3. The rules connected with creation of PCB form microprocessor circuits</p> <p>4. The rules connected with testing process during PCB's computer design</p> | |
| Work placement | Not applicable | |