



Subject card

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|---|---|--|---|-------------------------------------|--|------------|-----|
| Subject name and code | Electrical equipment and installations (WEIA), PG_00042094 | | | | | | |
| Field of study | Power Engineering, Power Engineering, Power Engineering, Power Engineering, Power Engineering | | | | | | |
| Date of commencement of studies | October 2020 | | Academic year of realisation of subject | | 2022/2023 | | |
| Education level | first-cycle studies | | Subject group | | | | |
| Mode of study | Full-time studies | | Mode of delivery | | at the university | | |
| Year of study | 3 | | Language of instruction | | English | | |
| Semester of study | 6 | | ECTS credits | | 4.0 | | |
| Learning profile | general academic profile | | Assessment form | | assessment | | |
| Conducting unit | Department of Electrical Power Engineering -> Faculty of Electrical and Control Engineering | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | | prof. dr hab. inż. Zbigniew Lubośny | | | | |
| | Teachers | | prof. dr hab. inż. Zbigniew Lubośny | | | | |
| Lesson types and methods of instruction | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 15.0 | 0.0 | 0.0 | 0.0 | 15.0 | 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 | | 5.0 | | 65.0 | 100 |
| Subject objectives | Acquainting with the construction and principles of selection of elements of electrical installations. | | | | | | |
| Learning outcomes | Course outcome | | Subject outcome | | Method of verification | | |
| | K6_W05 | | The student knows the circuits and systems of protection against electric shocks and the phenomena occurring during normal and emergency operation of electrical installations. | | [SW1] Assessment of factual knowledge | | |
| | K6_U05 | | The student can design electrical installation. | | [SU1] Assessment of task fulfilment | | |
| | K6_U01 | | The student is able to select the elements of the electrical installation system. | | [SU4] Assessment of ability to use methods and tools | | |
| Subject contents | Electrical installations - definitions, structure, requirements. Impact of working and short-circuit currents on installation components. Power cables, fuses, circuit breakers, differential circuit breakers - design and characteristics. Principles of installation design. | | | | | | |
| Prerequisites and co-requisites | Basics of electrical engineering. | | | | | | |
| Assessment methods and criteria | Subject passing criteria | | Passing threshold | | Percentage of the final grade | | |
| | Test | | 60.0% | | 100.0% | | |
| Recommended reading | Basic literature | | Markowski H.: Urządzenia i instalacje elektroenergetyczne. WNT Warszawa 2006. Musiał E.: Urządzenia elektroenergetyczne. PWSiP, Warszawa 2003. Poradnik Inżyniera elektryka. WNT Warszawa 2011. N SEP-E-002 Instalacje elektryczne w obiektach budowlanych. Instalacje elektryczne w obiektach mieszkalnych. Warszawa 2006. Electrical installation guide. According to IEC International Standards. Schneider Electric, 2018 Electrical installations handbook. Protection, control and electrical devices. ABB SACE 2010 | | | | |
| | Supplementary literature | | Ismail Kasikci, Short Circuits in Power Systems. A practical Guide to IEC 60909. Wiley-VCH. 2002. IEC 60364)Low-voltage electrical installations. PN-IEC 60364 Instalacje elektryczne w obiektach budowlanych. Bill Atkinson, Electrical Installations Designs. John Wiley & Sons, 2013 | | | | |
| | eResources addresses | | Adresy na platformie eNauczanie: | | | | |

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| Example issues/ example questions/ tasks being completed | Design a part of the installation in terms of cable selection and protection (fuse, circuit breaker). |
| Work placement | Not applicable |