



Subject card

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| Subject name and code | Electronics and electrical engineering, PG_00055286 | | | | | | |
| Field of study | Transport and Logistics | | | | | | |
| Date of commencement of studies | October 2022 | | Academic year of realisation of subject | | 2022/2023 | | |
| Education level | first-cycle studies | | Subject group | | Obligatory subject group in the field of study | | |
| Mode of study | Full-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 | | assessment | | |
| Conducting unit | Faculty of Ocean Engineering and Ship Technology | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | | dr inż. Wojciech Leśniewski | | | | |
| | Teachers | | dr inż. Wojciech Leśniewski | | | | |
| | | | dr inż. Magdalena Kunicka | | | | |
| Lesson types and methods of instruction | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 30.0 | 15.0 | 0.0 | 0.0 | 0.0 | 45 |
| | 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 | 45 | | 5.0 | | 50.0 | 100 |
| Subject objectives | Familiarize students with the basics of electrical engineering and electronics | | | | | | |
| Learning outcomes | Course outcome | | Subject outcome | | Method of verification | | |
| | [K6_K01] is aware of the need of constant improvement within the range of the possessed job and knows the possibilities of further education | | The student is able to solve simple problems in the field of electrical engineering and electronics. | | [SK2] Assessment of progress of work [SK5] Assessment of ability to solve problems that arise in practice | | |
| | [K6_W03] has a basic knowledge on hydromechanics, thermodynamics, machine construction, ecology, materials science and electronics necessary to understand the construction and operation principles of means of marine transport | | The student knows the development trends in the field of modern electrical systems used in shipbuilding. | | [SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge | | |
| Subject contents | Basic physical quantities in electrical engineering. Elements of RLC circuits Analysis of electrical circuits (Ident. Circuits) Solving circuits in the time domain Symbolic method of solving electrical circuits. (complex numbers) Analysis of electric circuits. solving graphical method Analysis of electric circuits. solving analytical method Impedance replacement Magnetism. The magnetic circuit Solving magnetic circuits Circuits associated 3f ~, The system ee Processing e.e to other types of energy | | | | | | |
| Prerequisites and co-requisites | The knowledge of mathematics and physics of university level | | | | | | |
| Assessment methods and criteria | Subject passing criteria | | Passing threshold | | Percentage of the final grade | | |
| | test | | 50.0% | | 100.0% | | |

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| Recommended reading | Basic literature | <p><i>Podstawy elektrotechniki i elektroniki. St. Bolkowski</i></p> <p><i>Teoria obwodów elektrycznych. St. Bolkowski</i></p> <p><i>Elektrotechnika i elektronika okrętowa - nowe wyd. R. BIAŁEK</i></p> |
| | Supplementary literature | <p><i>Podstawy elektrotechniki i elektroniki. R. Kurdziel</i></p> <p><i>Elektrotechnika okrętowa. Czytanie schematów J. WYSZKOWSKI</i></p> <p><i>Elektrotechnika okrętowa. Napędy elektryczne J. WYSZKOWSKI</i></p> <p><i>Elektrotechnika teoretyczna. Obwody prądu stałego T. PIOTROWSKI</i></p> <p><i>Eksploatacja i diagnostyka elektrycznych urządzeń okrętowych J. MAJEWSKI</i></p> <p><i>Bezpieczna praca elektryka i elektronika na statku H. ŁĄCZYŃSKI</i></p> <p><i>Elektryczne urządzenia okrętowe. Laboratorium R. BIAŁEK, W. WOLCZYŃSKI, T. NOWAK, P. RUPNIK</i></p> |
| | eResources addresses | <p>Adresy na platformie eNauczanie:</p> <p>Elektrotechnika i Elektronika OCE/TiL/PiBJ - Moodle ID: 29995 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=29995</p> |
| Example issues/ example questions/ tasks being completed | <p>Description and solution electrical circuits. in the time domain and symbolic method.</p> <p>Impedance replacement of electrical circuits. Resonances in the electrical circuits</p> <p>Magnetic circuits - solving systems.</p> | |
| Work placement | Not applicable | |