



Subject card

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|---|---|--|---|-------------------------------------|--|------------|-----|
| Subject name and code | Electricity and magnetism, PG_00061906 | | | | | | |
| Field of study | Materials Engineering | | | | | | |
| Date of commencement of studies | October 2023 | | Academic year of realisation of subject | | 2024/2025 | | |
| Education level | first-cycle studies | | Subject group | | Obligatory subject group in the field of study Subject group related to scientific research in the field of study | | |
| Mode of study | Full-time studies | | Mode of delivery | | at the university | | |
| Year of study | 2 | | Language of instruction | | Polish | | |
| Semester of study | 3 | | ECTS credits | | 6.0 | | |
| Learning profile | general academic profile | | Assessment form | | exam | | |
| Conducting unit | Division of Ceramics -> Institute of Nanotechnology and Materials Engineering -> Faculty of Applied Physics and Mathematics | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | | dr inż. Tadeusz Miruszewski | | | | |
| | Teachers | | dr inż. Leszek Wicikowski dr inż. Marek Chmielewski dr inż. Tadeusz Miruszewski | | | | |
| Lesson types and methods of instruction | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 30.0 | 15.0 | 30.0 | 0.0 | 0.0 | 75 |
| | E-learning hours included: 0.0 | | | | | | |
| | Additional information: E-Learning course will be available at the beginning of the semester. | | | | | | |
| 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 | 75 | | 10.0 | | 65.0 | 150 |
| Subject objectives | Acquiring knowledge in the field of electricity and magnetism. | | | | | | |

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| Learning outcomes | Course outcome | Subject outcome | Method of verification |
| | [K6_U01] Can properly use selected analytical, simulation and experimental methods, as well as devices for measuring the fundamental properties of materials and technological processes. | the student is able to perform basic measurements in the field of electricity and magnetism. | [SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools |
| | [K6_K01] Understands the need to improve professional and personal competencies; is conscious of own limitations and knows when to turn to experts, properly establishes priorities helping to accomplish tasks defined by oneself or others. | The student uses commonly used mathematical notation in physical calculations and solves physical problems. Is able to explain basic concepts of physics. | [SK2] Assessment of progress of work [SK3] Assessment of ability to organize work [SK5] Assessment of ability to solve problems that arise in practice |
| | [K6_U05] can learn independently | The student is able to use various sources of knowledge and learn independently. | [SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools |
| | [K6_W02] has knowledge of physics and chemistry, useful for formulating and solving simple problems within the scope of materials science | The student uses commonly used mathematical notation in physical calculations and solves physical problems. Is able to explain the basic concepts of electricity and magnetism. | [SW3] Assessment of knowledge contained in written work and projects [SW2] Assessment of knowledge contained in presentation [SW1] Assessment of factual knowledge |
| Subject contents | Electric field issues, magnetic phenomena. | | |
| Prerequisites and co-requisites | knowledge of physics from the previous semester | | |
| Assessment methods and criteria | Subject passing criteria | Passing threshold | Percentage of the final grade |
| | laboratory | 50.0% | 20.0% |
| | accounting classes | 50.0% | 40.0% |
| | exam | 50.0% | 40.0% |
| Recommended reading | Basic literature | M.A. Herman A. Kalestyński, L. Widomski "Podstawy fizyki dla kandydatów na wyższe uczelnie i studentów" PWN J. Massalski "Fizyka dla inżynierów" NT Fizyka, tom 2, wyd. OpenStax | |
| | Supplementary literature | D. Halliday, R. Resnick, J. Walker Podstawy fizyki,PW | |
| | eResources addresses | Podstawowe http://brak - The link will be available after the semester will start. Adresy na platformie eNauczanie: Elektryczność i magnetyzm_ Nanotechnologia_Inżynieria Materiałowa_ 2024/2025 - Moodle ID: 41654 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=41654 | |
| | Example issues/ example questions/ tasks being completed | | |
| Work placement | Not applicable | | |

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