



## Subject card

|   |   |  |  |            |  |         |     |
|---|---|--|--|------------|--|---------|-----|
| Subject name and code                       | Technical Physics, PG_00050182  |  |  |            |  |         |     |
| Field of study                              | Engineering Management  |  |  |            |  |         |     |
| 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                               | Part-time studies (on-line)   | Mode of delivery   |  |            | blended-learning                                     |         |     |
| Year of study                               | 1   | Language of instruction  |  |            | Polish   |         |     |
| Semester of study                           | 1   | ECTS credits   |  |            | 5.0  |         |     |
| Learning profile                            | general academic profile  | Assessment form  |  |            | exam   |         |     |
| Conducting unit                             | Zakład Spektroskopii Układów Złożonych -> Instytut Fizyki i Informatyki Stosowanej -> Faculty of Applied Physics and Mathematics  |  |  |            |  |         |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor  |  | dr inż. Marcin Dampc   |            |  |         |     |
|   | Teachers  |  | dr inż. Marcin Dampc   |            |  |         |     |
| Lesson types and methods of instruction     | Lesson type   | Lecture  | Tutorial   | Laboratory | Project  | Seminar | SUM |
|   | Number of study hours   | 16.0   | 0.0  | 16.0       | 0.0  | 0.0     | 32  |
|   | E-learning hours included: 24.0   |  |  |            |  |         |     |
|   | Fizyka techniczna dla ZiE, zaoczne on-line, 2022/2023 - Moodle ID: 26355<br><a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=26355">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=26355</a> |  |  |            |  |         |     |
| 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   | 32   | 8.0  | 85.0       | 125  |         |     |
| Subject objectives                          | Basic knowledge of physics. Ability to use basic physical laws. Ability to interpret basic physical phenomena.  |  |  |            |  |         |     |
| Learning outcomes                           | Course outcome  | Subject outcome  |  |            | Method of verification                               |         |     |
|   | [K6_U01] interprets and analyses the phenomena and processes taking place in the economy and organisation using basic theoretical knowledge of economics, management and science                                    | Basic knowledge of physics. Ability to use basic physical laws. Ability to interpret basic physical phenomena. |  |            | [SU4] Assessment of ability to use methods and tools |         |     |
|   | [K6_W11] has the basic knowledge of mathematics, physics and chemistry necessary to solve technical problems  | Basic knowledge of physics. Ability to use basic physical laws. Ability to interpret basic physical phenomena. |  |            | [SW1] Assessment of factual knowledge                |         |     |
| Subject contents                            | Mechanics Optics Heat Waves Optics Special Theory of Relativity Electricity and Magnetism Nuclear Physics Quantum Physics   |  |  |            |  |         |     |
| Prerequisites and co-requisites             |   |  |  |            |  |         |     |
| Assessment methods and criteria             | Subject passing criteria  |  | Passing threshold  |            | Percentage of the final grade                        |         |     |
|   | final exam  |  | 50.0%  |            | 50.0%  |         |     |
|   | laboratories  |  | 50.0%  |            | 50.0%  |         |     |
| Recommended reading                         | Basic literature  |  | D. Halliday, R. Resnick and J. Walker "Podstawy fizyki" PWN tom 1-5<br>"Feynmana Wykłady z Fizyki" PWN Warszawa 2015 |            |  |         |     |
|   | Supplementary literature  |  | Paul G. Hewitt "Fizyka wokół nas" PWN Warszawa 2022  |            |  |         |     |

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|  | eResources addresses            |  |
| Example issues/<br>example questions/<br>tasks being completed | The laws of classical mechanics |  |
| Work placement   | Not applicable                  |  |