



## Subject card

|   |   |   |   |                                       |  |            |     |
|---|---|---|---|---------------------------------------|--|------------|-----|
| Subject name and code                       | Inspection of cathodic protection systems, PG_00048981  |   |   |                                       |  |            |     |
| Field of study                              | Corrosion   |   |   |                                       |  |            |     |
| Date of commencement of studies             | February 2024   |   | Academic year of realisation of subject |                                       | 2024/2025  |            |     |
| Education level                             | second-cycle studies  |   | Subject group                           |                                       | Obligatory subject group in the field of study<br>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                            |                                       | 3.0  |            |     |
| Learning profile                            | general academic profile  |   | Assessment form                         |                                       | exam   |            |     |
| Conducting unit                             | Department of Electrochemistry, Corrosion and Materials Engineering -> Faculty of Chemistry   |   |   |                                       |  |            |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor  |   | dr hab. inż. Krzysztof Żakowski         |                                       |  |            |     |
|   | Teachers  |   |   |                                       |  |            |     |
| Lesson types and methods of instruction     | Lesson type   | Lecture   | Tutorial                                | Laboratory                            | Project  | Seminar    | SUM |
|   | Number of study hours   | 15.0  | 0.0                                     | 30.0                                  | 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                                   |  | 25.0       | 75  |
| Subject objectives                          | Mastering the basic measurement methods used during the operation of cathodic protection systems.   |   |   |                                       |  |            |     |
| Learning outcomes                           | Course outcome  | Subject outcome   |   |                                       | Method of verification   |            |     |
|   | K7_U05  | Student is able to evaluate the effectiveness of the cathodic protection of metal structures.                 |   |                                       | [SU2] Assessment of ability to analyse information   |            |     |
|   | K7_W02  | Student knows the technologies for implementing cathodic protection of underground and underwater structures. |   |                                       | [SW1] Assessment of factual knowledge  |            |     |
|   | K7_K02  | Student cooperates in a group, is able to organize work.  |   |                                       | [SK3] Assessment of ability to organize work<br>[SK1] Assessment of group work skills                                |            |     |
|   | K7_U02  | Student is prepared for self-education in order to improve their qualifications.                              |   |                                       | [SU3] Assessment of ability to use knowledge gained from the subject   |            |     |
| K7_W03                                      | Student knows the methods for assessing the effectiveness of cathodic protection.   |   |   | [SW1] Assessment of factual knowledge |  |            |     |
| Subject contents                            | Measurement of the ON and OFF-potential.Measurement of the output parameters of the cathodic protection station.Measurement of anode system resistance.Measurement of current flowing through the pipeline.Location of underground pipelines.Location of underground pipeline insulation defects. |   |   |                                       |  |            |     |
| Prerequisites and co-requisites             | General knowledge of electrical engineering. Basic knowledge of cathodic protection.  |   |   |                                       |  |            |     |
| Assessment methods and criteria             | Subject passing criteria  | Passing threshold   |   |                                       | Percentage of the final grade  |            |     |
|   | test  | 60.0%   |   |                                       | 50.0%  |            |     |
|   | laboratory  | 60.0%   |   |                                       | 50.0%  |            |     |
| Recommended reading                         | Basic literature  | not applicable  |   |                                       |  |            |     |
|   | Supplementary literature  | not applicable  |   |                                       |  |            |     |
|   | eResources addresses  | Adresy na platformie eNauczanie:  |   |                                       |  |            |     |

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| Example issues/<br>example questions/<br>tasks being completed | Measurement of the OFF-potential of underground tank.Measurement of the cathodic protection current.Measurement of anode system resistance.Location of underground gas pipeline. |
| Work placement   | Not applicable   |