

## Subject card

| Subject name and code                       | MSc Diploma Thesis I, PG_00048417   |   |                             |   |         |   |           |     |  |
|---|---|---|-----------------------------|---|---------|---|-----------|-----|--|
| Field of study                              | Automatic Control, Cybernetics and Robotics   |   |                             |   |         |   |           |     |  |
| Date of commencement of studies             | February 2023   |   |                             | Academic year of realisation of subject |         |   | 2023/2024 |     |  |
| Education level                             | second-cycle studies  |   | Subject group               |   |         | Optional subject group<br>Subject group related to scientific<br>research 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                |   |         | 5.0   | 5.0       |     |  |
| Learning profile                            | general academic profile  |   | Assessment form             |   |         | assessment  |           |     |  |
| Conducting unit                             | Department of Automatic Control -> Faculty of Electronics, Telecommunications and Informatics |   |                             |   |         |   |           |     |  |
| Name and surname                            | Subject supervisor  | dr inż. Paweł Raczyński                       |                             |   |         |   |           |     |  |
| of lecturer (lecturers)                     | Teachers  |   | dr inż. Paweł Raczyński     |   |         |   |           |     |  |
|   |   |   | dr inż. Marcin Pazio        |   |         |   |           |     |  |
|   |   |   | dr inż. Michał Czubenko     |   |         |   |           |     |  |
|   |   |   | dr inż. Piotr Kaczmarek     |   |         |   |           |     |  |
|   |   |   |                             |   |         |   |           |     |  |
|   |   |   | dr hab. inż. Tomasz Talaśka |   |         |   |           |     |  |
|   |   |   | dr inż. Piotr Fiertek       |   |         |   |           |     |  |
| Lesson types and methods of instruction     | Lesson type   | Lecture                                       | Tutorial                    | Laboratory                              | Project |   | Seminar   | SUM |  |
|   | Number of study hours   | 0.0   | 0.0                         | 0.0                                     | 0.0     |   | 0.0       | 0   |  |
|   | E-learning hours included: 0.0  |   |                             |   |         |   |           |     |  |
| Learning activity and number of study hours | Learning activity   | ctivity Participation in classes include plan |                             |   |         | Self-study  |           | SUM |  |
|   | Number of study hours   | 0   |                             | 30.0                                    |         | 95.0  |           | 125 |  |
| Subject objectives                          | Implementation of the diploma   |   |                             |   |         |   |           |     |  |

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| Learning outcomes  | Course outcome   | Subject outcome  | Method of verification   |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|
|  | [K7_U10] can individually plan and pursuit their own lifelong education and influence others in this aspect, also by means of advanced information and communication technologies (ICT), and communicate on specialist issues with diverse recipients, appropriately justify points of view, hold debates, present, assess and discuss different opinions and points of view, as well as use specialist terminology related to the field of study in communication | The student is able to plan and implement their own education, use advanced information and communication techniques (ICT) and communicate with diverse audiences, organize a debate, present and evaluate various opinions, and communicate using specialized terminology | [SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information   |  |  |  |  |  |
|  | K7_K02   | The student critically assesses the received content and the importance of knowledge in solving cognitive and practical problems   | [SK5] Assessment of ability to solve problems that arise in practice [SK4] Assessment of communication skills, including language correctness  |  |  |  |  |  |
|  | [K7_W09] Knows and understands, to an increased extent, the economic, legal and other conditions of various types of activities related to the given qualification, including the principles of protection of industrial property and copyright.   | The student understands the economic and legal conditions of activities related to the qualification, including the principles of industrial property protection and copyright   | [SW1] Assessment of factual knowledge  |  |  |  |  |  |
|  | [K7_K03] is ready to meet social obligations, inspire and organise activities for the social environment, initiate actions for the public interest, think and act in an entrepreneurial way  | The student is able to fulfill social obligations and act for the social environment and public interest   | [SK1] Assessment of group work skills [SK5] Assessment of ability to solve problems that arise in practice [SK4] Assessment of communication skills, including language correctness [SK3] Assessment of ability to organize work |  |  |  |  |  |
|  | [K7_U08] while identifying and formulating engineering tasks specifications and solving these tasks, can:n- apply analytical, simulation and experimental methods,n- notice their systemic and non-technical aspects,n-make a preliminary economic assessment of suggested solutions and engineering workn   | The student is able to formulate and solve engineering tasks, use analytical, simulation and experimental methods, see systemic and non-technical aspects, make an economic assessment of the proposed solutions   | [SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject [SU2] Assessment of ability to analyse information   |  |  |  |  |  |
| Subject contents   | Realization of the project set by the thesis supervisor  |  |  |  |  |  |  |  |
| Prerequisites and co-requisites                                | Completing the subjects of the previous semester   |  |  |  |  |  |  |  |
| Assessment methods   | Subject passing criteria   | Passing threshold  | Percentage of the final grade  |  |  |  |  |  |
| and criteria   | Formal project   | 50.0%  | 40.0%  |  |  |  |  |  |
|  | Substantive project  | 50.0%  | 60.0%  |  |  |  |  |  |
| Recommended reading  | Basic literature   | Materials selected adequately to the given topic.  |  |  |  |  |  |  |
|  | Supplementary literature   | W.L. Brogan: Modern control theory, Prentice Hall, Englewood Cliffs, 1974.  K.J. Astrom, B Wittenmark: Computer-controlled systems. Prentice Hall, Upper Saddle River, 1997  B.C. Kuo: Automatic Control Systems. Prentice-Hall, Englewood Cliffs 1987                     |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  | eResources addresses   |  |  |  |  |  |  |  |
| Example issues/<br>example questions/<br>tasks being completed |  |  |  |  |  |  |  |  |
| Work placement   | Not applicable   |  |  |  |  |  |  |  |
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