



Subject card

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|---|--|--|-----------------------|-------------------------------------|--|------------|-----|
| Subject name and code | Communication and visualisation in building management systems, PG_00048444 | | | | | | |
| 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 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 | 1 | Language of instruction | | | Polish | | |
| Semester of study | 2 | ECTS credits | | | 1.0 | | |
| Learning profile | general academic profile | Assessment form | | | assessment | | |
| Conducting unit | Department of Automatic Control -> Faculty of Electronics, Telecommunications and Informatics | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | | dr inż. Piotr Fiertek | | | | |
| | Teachers | | dr inż. Piotr Fiertek | | | | |
| Lesson types and methods of instruction | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 15.0 | 0.0 | 0.0 | 0.0 | 0.0 | 15 |
| | 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 | 15 | | 2.0 | | 8.0 | 25 |
| Subject objectives | Understanding basic methods of smart building management (BMS): commonly used communication protocols, as well as methods and popular software packages for management and visualization. The following solutions will be discussed in more detail: LonWorks and BACnet. | | | | | | |
| Learning outcomes | Course outcome | Subject outcome | | | Method of verification | | |
| | [K7_W05] Knows and understands, to an increased extent, methods of process and function support, specific to the field of study. | Getting to know the basics of the construction and operation of communication systems in BMS systems. Especially from LonWorks and BACnet. | | | [SW1] Assessment of factual knowledge | | |
| | [K7_W03] Knows and understands, to an increased extent, the construction and operating principles of components and systems related to the field of study, including theories, methods and complex relationships between them and selected specific issues - appropriate for the curriculum. | Getting to know the basics of the construction and operation of communication systems in BMS systems. Especially from LonWorks and BACnet. | | | [SW1] Assessment of factual knowledge | | |
| | K7_K02 | Implementation of the project based on the SCADA system: Trace Mode software. | | | [SK5] Assessment of ability to solve problems that arise in practice | | |
| Subject contents | 1. Basic issues of communication protocols 2. Communication media 3. Common communication protocols in control systems 4. Structure and application of the SCADA software | | | | | | |
| Prerequisites and co-requisites | | | | | | | |
| Assessment methods and criteria | Subject passing criteria | | Passing threshold | | Percentage of the final grade | | |
| | Test | | 55.0% | | 100.0% | | |

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| Recommended reading | Basic literature | Praca Zbiorowa "Building Automation: System Integration with Open Protocols" wydawnictwo APT, Orland Park USA, 2009 |
| | Supplementary literature | no requirements |
| | eResources addresses | Adresy na platformie eNauczanie: Komunikacja i wizualizacja w automatyce budynków - 2023/24 - Moodle ID: 32657 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=32657 |
| Example issues/ example questions/ tasks being completed | | |
| Work placement | Not applicable | |