



Subject card

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|---|--|--|-------------------------------------|------------|--|---------|-----|
| Subject name and code | Multiagent Environments, PG_00047892 | | | | | | |
| Field of study | Informatics | | | | | | |
| Date of commencement of studies | October 2023 | Academic year of realisation of subject | | | 2025/2026 | | |
| Education level | first-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 | 3 | Language of instruction | | | Polish | | |
| Semester of study | 5 | ECTS credits | | | 2.0 | | |
| Learning profile | general academic profile | Assessment form | | | assessment | | |
| Conducting unit | Department of Computer Architecture -> Faculty of Electronics, Telecommunications and Informatics | | | | | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | dr inż. Mariusz Matuszek | | | | | |
| | Teachers | dr inż. Mariusz Matuszek | | | | | |
| Lesson types and methods of instruction | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
| | Number of study hours | 15.0 | 0.0 | 15.0 | 0.0 | 0.0 | 30 |
| | 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 | 30 | 2.0 | | 18.0 | | 50 |
| Subject objectives | Introduction to theory and practice of agent methodology in distributed systems. | | | | | | |
| Learning outcomes | Course outcome | Subject outcome | | | Method of verification | | |
| | [K6_U09] can carry out a critical analysis of the functioning of existing technical solutions and assess these solutions, as well as apply experience related to the maintenance of technical systems, devices and facilities typical for the field of studies, gained in the professional engineering environment | Student: - configures an agent environment - protects an agent environment against unauthorised access - implements and runs simple agent applications. | | | [SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools | | |
| | [K6_U11] can plan and organise individual and team work | Student: - performs an individual assignment - takes part in a group assignment | | | [SU1] Assessment of task fulfilment | | |
| | [K6_W08] Knows and understands the fundamental dilemmas of modern civilisation and basic economic, legal and other conditions of various types of activities related to the field of study, including the basic concepts and principles in the field of industrial property and copyright protection. | Student: - knows and differentiates between agent architectures - is able to classify agent interaction methods. | | | [SW1] Assessment of factual knowledge | | |
| Subject contents | 1. Introduction to agent systems. 2. Agent and agent environment definitions. 3. Agent models and architectures. 4. BDI agent properties and principles of operation. 5. Agent interaction rules. 6. Multiagent systems properties. 7. Agents search algorithms. 8. Agent recommendation algorithms. 9. Agent negotiation algorithms. 10. Agent applications structure. 11. Agent application lifecycle. 12. Use of services in agent applications. 13. Agent development environments. 14. Agent runtime environments. 15. Agent application examples. 16. Tests and exams. | | | | | | |
| Prerequisites and co-requisites | | | | | | | |

| Assessment methods and criteria | Subject passing criteria | Passing threshold | Percentage of the final grade |
|--|--------------------------|---|-------------------------------|
| | Practical exercise | 50.0% | 50.0% |
| | Midterm colloquium | 50.0% | 50.0% |
| Recommended reading | Basic literature | [1] Woolridge Michael: An Introduction to Multiagent Systems. [2] (Ed.) Weiss Gerhard: Multiagent Systems - A Modern Approach to Distributed Artificial Intelligence. | |
| | Supplementary literature | [1] JADE - Users Guide (*) [2] JADE - Administrator Guide (*) (*) literatura do części praktycznej przedmiotu / for exercises. | |
| | eResources addresses | Adresy na platformie eNauczanie: | |
| Example issues/ example questions/ tasks being completed | | | |
| Work placement | Not applicable | | |