# GDAŃSK UNIVERSITY OF TECHNOLOGY

## Subject card

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| Subject name and code | Introduction to cognitive science, PG_00045307 |
| Field of study | Data Engineering |

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| Date of commencement of studies | October 2024 | Academic year of realisation of subject | 2025/2026 |
| Education level | first-cycle studies | Subject group | Optional subject group<br>Humanistic-social subject group |
| Mode of study | Full-time studies | Mode of delivery | at the university |
| Year of study | 2 | Language of instruction | English |
| Semester of study | 4 | ECTS credits | 3.0 |
| Learning profile | general academic profile | Assessment form | assessment |

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| Conducting unit | Department of Philosophy and Science Methodology -> Faculty of Management and Economics -> Faculties of Gdańsk University of Technology |

| Name and surname of lecturer (lecturers) | Subject supervisor | dr Jakub Gużyński |
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| | Teachers | dr Jakub Gużyński |

| Lesson types | Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
|---|---|---|---|---|---|---|---|
| | Number of study hours | 0.0 | 30.0 | 0.0 | 0.0 | 0.0 | 30 |
| | E-learning hours included: 0.0 | | | | | | |
| | eNauczanie source addresses: | | | | | | |
| | Moodle ID: 47480 Introduction to cognitive science 2026<br>https://enauczanie.pg.edu.pl/moodle/course/view.php?id=47480 | | | | | | |

| 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 | 43.0 | 75 |

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| Subject objectives | Preparing students to make competent and responsible decisions based on knowledge of cognitive science in the context of technical, social and economic challenges. |

| Learning outcomes | Course outcome | Subject outcome | Method of verification |
|---|---|---|---|
| | [K6_W07] analyzes business processes in an advanced way in the technical, legal, economic, financial and social context | Knows the basic theories of cognitive science and uses them in advanced analysis of business processes in technical, legal, economic, financial and social contexts | [SW1] Assessment of factual knowledge |
| | [K6_K01] demonstrates awareness of legal, ethical and cultural diversity issues, making socially responsible decisions | Is able to present own position in discussions, demonstrating awareness of legal, ethical and cultural diversity issues, and making socially responsible decisions | [SK4] Assessment of communication skills, including language correctness |
| | [K6_K02] makes competent and ethical decisions to create and maintain economic, social and environmental values | Is able to work in a team, making competent and ethical decisions to create and maintain economic, social and environmental values | [SK1] Assessment of group work skills |

| Subject contents | Course content – exercises |
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| | A Brief History of Cognitive Science - Behaviorism, Computational Theory, Formal Linguistics, Generative Grammar, Marr's Levels of Explanation<br>The Brain Turn - Fundamentals of Nervous System Anatomy, Neural Networks<br>Computational Theory of Mind - Is the Mind a Computer? The Chinese Room and Intentionality<br>Probabilistic Models in Cognitive Science - Bayesianism<br>Dynamic Systems Theory in Cognitive Science - The Mind as a Steam Engine<br>Brain Modularity, Evolutionary Cognitive Science<br>Affective Science - Basic Theories of Emotion<br>Artificial Intelligence and Robotics<br>Cognitive Linguistics<br>Theory of Mind and the Role of Imitation in Cognition<br>Extended Cognition |

| Prerequisites and co-requisites | |
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| Assessment methods and criteria | Subject passing criteria | Passing threshold | Percentage of the final grade |
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| | Group presentation | 50.0% | 30.0% |
| | Active participation in discussion | 50.0% | 30.0% |
| | Final test | 50.0% | 40.0% |

| Recommended reading | Basic literature | José Luis Bermúdez. 2022. Cognitive Science: An Introduction to the Science of the Mind. Cambridge University Press |
| --- | --- | --- |
| | | Jay Friedenberg, Gordon Silverman. 2016. Cognitive Science. An Introduction to the Study of Mind. SAGE |
| | | Jerry A. Fodor. 2001. The Mind Doesn't Work That Way. The scope and limits of computational psychology. MIT Press. |
| | Supplementary literature | Kim Sterelny, Julie Fitness (eds.). 2003. From Mating to Mentality_ Evaluating Evolutionary Psychology. Psychology Press |
| | | Anthony Chemero. 2009. Radical Embodied Cognitive Science. MIT Press. |
| | eResources addresses | |

| Example issues/ example questions/ tasks being completed | Enumerate and discuss basic theories of mind |
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| | Discuss the problem of representation in cognitive sciences |
| | What is the embodied cognition? |
| | Discuss the probabilistic model of cognition. |

| Practical activites within the subject | Not applicable |
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