



Subject card

Subject name and code	Introduction to cognitive science, PG_00045307						
Field of study	Data Engineering						
Date of commencement of studies	October 2020	Academic year of realisation of subject			2021/2022		
Education level	first-cycle studies	Subject group			Optional subject group 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		
Conducting unit	Department of Social Sciences and Philosophy -> Faculty of Management and Economics						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Jakub Gużyński				
	Teachers		dr Jakub Gużyński				
Lesson types and methods of instruction	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						
	Introduction to cognitive science - Moodle ID: 22921 https://enauzanie.pg.edu.pl/moodle/course/view.php?id=22921						
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
Subject objectives	During the classes students will learn how the interdisciplinary project of the cognitive sciences was created and what are its basic paradigms. Fundamental problems within this field of inquiry will be discussed along with the most typical attempts at solving them.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_K05] understands the need for self-improvement through systematic acquisition of knowledge and skills.		Student is able to present the latest trends and developments in cognitive science.		[SK2] Assessment of progress of work		
	[K6_W11] has knowledge of the role of man in social structures and the impact of their decisions on economic situation of business entities		Student knows the history of cognitive science, its basic paradigms and assumptions.		[SW1] Assessment of factual knowledge		
	[K6_U14] can apply knowledge from the field of humanities or social sciences to solve problems.		Student is able to analyze and explain away given problem within the framework of a given research perspective.		[SU4] Assessment of ability to use methods and tools [SU2] Assessment of ability to analyse information		

Subject contents	<p>1. Introduction to the course. Interdisciplinary nature of cognitive science. Requirements and class etiquette.</p> <p>2. The foundations of cognitive science. Behaviorism in psychology. Theory of computation and idea of algorithm. The formal analysis of language. Information-processing models. Marrs levels of explanation.</p> <p>3. The turn to the brain. Basics of neuroanatomy. Brain mapping. The neural networks model. Connectionism.</p> <p>4. Minds and computers. The physical symbol systems hypothesis. Turing test. Searles Chinese room.</p> <p>5. Bayesianism in cognitive science.</p> <p>6. The dynamical systems theory.</p> <p>7. Minds architecture. Modularity of mind. The massive modularity hypothesis.</p> <p>8. Mindreading. Pretend play and metarepresentation. SAM, TESS and TOMM.</p> <p>9. Emotions in cognitive science. Cognition, perception and decision making.</p> <p>10. Cognitive linguistics. The language of thought. Models of language learning.</p> <p>11. Artificial Intelligence. Robotics. Expert systems. Machine learning. Deep learning.</p> <p>12. Situated cognition. Embodied cognition. Extended mind thesis. Enactivism.</p> <p>13. Neuroeconomics. Behavioral finance. Cognitive marketing.</p> <p>14. Evolutionary psychology. Evolution and cognitive processes. Sex differences in cognition.</p> <p>15. Final test.</p>											
Prerequisites and co-requisites												
Assessment methods and criteria	<table border="1"> <thead> <tr> <th data-bbox="456 1395 794 1429">Subject passing criteria</th> <th data-bbox="799 1395 1137 1429">Passing threshold</th> <th data-bbox="1142 1395 1469 1429">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="456 1429 794 1462">Active participation</td> <td data-bbox="799 1429 1137 1462">40.0%</td> <td data-bbox="1142 1429 1469 1462">40.0%</td> </tr> <tr> <td data-bbox="456 1462 794 1496">Final test</td> <td data-bbox="799 1462 1137 1496">50.0%</td> <td data-bbox="1142 1462 1469 1496">60.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Active participation	40.0%	40.0%	Final test	50.0%	60.0%
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Recommended reading	<p>Basic literature</p> <p>José Luis Bermúdez, 2020, <i>Cognitive Science. An Introduction to the Science of the Mind. Third edition</i>, Cambridge University Press.</p> <p>Jay Friedenberg, Gordon Silverman, 2016, <i>Cognitive Science. An Introduction to the Study of Mind Third Edition</i>. SAGE Publications.</p> <p>Vyvyan Evans, Melanie Green, 2006, <i>Cognitive Linguistics. An Introduction</i>. Edinburgh University Press.</p> <p>Kim Sterelny, Julie Fitness (eds), 2003, <i>From Mating to Mentality. Evaluating Evolutionary Psychology</i>. Psychology Press.</p>											

	Supplementary literature	<p>William Bechtel, George Graham, 1998, <i>A Companion to Cognitive Science</i>. Blackwell Publishers.</p> <p>David Lee, 2001, <i>Cognitive Linguistics. An Introduction</i>. Oxford University Press.</p> <p>John R. Searle, 1980, <i>Minds, brains, and programs</i>, <i>The Behavioral And Brain Sciences</i> 3, 417-457.</p> <p>Steven Pinker, 1997, <i>How The Mind Works</i>, Penguin Books.</p> <p>Philip N. Johnson-Laird, 2006, <i>How We Reason</i>, Oxford University Press.</p>
	eResources addresses	
Example issues/ example questions/ tasks being completed	<p>Enumerate and discuss basic theories of mind.</p> <p>Discuss the problem of representation in cognitive sciences.</p> <p>What is the embodied cognition?</p> <p>Discuss the probabilistic model of cognition.</p>	
Work placement	Not applicable	