



Subject card

Subject name and code	PRAGMATIC LOGIC FOR ENGINEERS, PG_00044760						
Field of study	Engineering Management						
Date of commencement of studies	October 2022	Academic year of realisation of subject			2022/2023		
Education level	first-cycle studies	Subject group			Obligatory subject group in the field of study Humanistic-social subject group		
Mode of study	Part-time studies (on-line)	Mode of delivery			blended-learning		
Year of study	1	Language of instruction			Polish		
Semester of study	1	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 hab. Andrzej Lisak				
	Teachers		dr hab. Andrzej Lisak				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	16.0	8.0	0.0	0.0	0.0	24
	E-learning hours included: 18.0						
Logika pragmatyczna dla inżynierów (online) - Moodle ID: 25573 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=25573							
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	24		6.0		45.0	75
Subject objectives	The goal of the classes is to cultivate student's methodological self-awareness, their ability to reason and carry out proper thinking operations (inference, classification) and to practice the ability to recognize common logical fallacies in reasoning.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_U07] can work independently and in a team		Learns how to evaluate the logical correctness of a given scientific hypothesis.		[SU2] Assessment of ability to analyse information		
	[K6_W06] has a basic knowledge of methods and tools for conducting research and analyses related to particular areas of the enterprise's operations and its environment		Learns the basic logical inference and deduction.		[SW1] Assessment of factual knowledge		
[K6_U06] uses basic theoretical knowledge to solve selected organizational problems, design technical solutions and manage projects, including engineering projects		Student is aware of the limits of the application of logical tools in methodical problem-solving and understands the role of rhetoric in the construction of convincing arguments.		[SU1] Assessment of task fulfilment			

Subject contents	<p>1. Basic information on semiotics. Language as a system of signs. Syntactic categories. The semiotic function of expressions.</p> <p>2. Names and concepts. Logical division and classification.</p> <p>3. Definitions.</p> <p>4. Sentence and proposition.</p> <p>5. Logical fallacies and sources of misunderstandings.</p> <p>6. Idea of formal logic. Propositional calculus. Logical tautologies.</p> <p>7. Functional calculus.</p> <p>8. Syllogisms.</p> <p>9. Basic notions of relation theory.</p> <p>10. Direct and indirect reasoning. Drawing conclusions.</p> <p>11. Types of inference. Deductive inference and probabilistic inference.</p> <p>12. Role of inference in description and explanation of the world.</p> <p>13. Logical structure of science.</p> <p>14. Conversational logic and an art of argumentation.</p> <p>15. Limits of the application of logical instruments in reasoning. Art of rhetoric.</p>														
Prerequisites and co-requisites															
Assessment methods and criteria	<table border="1"> <thead> <tr> <th data-bbox="456 1370 794 1402">Subject passing criteria</th> <th data-bbox="801 1370 1139 1402">Passing threshold</th> <th data-bbox="1145 1370 1473 1402">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="456 1406 794 1438">Active participation</td> <td data-bbox="801 1406 1139 1438">50.0%</td> <td data-bbox="1145 1406 1473 1438">15.0%</td> </tr> <tr> <td data-bbox="456 1442 794 1473">Oral exam</td> <td data-bbox="801 1442 1139 1473">50.0%</td> <td data-bbox="1145 1442 1473 1473">70.0%</td> </tr> <tr> <td data-bbox="456 1478 794 1509">Assignments</td> <td data-bbox="801 1478 1139 1509">50.0%</td> <td data-bbox="1145 1478 1473 1509">15.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Active participation	50.0%	15.0%	Oral exam	50.0%	70.0%	Assignments	50.0%	15.0%
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Recommended reading	<p>Basic literature</p> <p>Supplementary literature</p> <p>eResources addresses</p>	<p>T. Hołówka, Kultura logiczna w przykładach, PWN Warszawa 2005.</p> <p>K. Szymanek, Sztuka argumentacji. Słownik terminologiczny, PWN Warszawa 2001.</p> <p>R. Wójcicki, Wykłady z logiki z elementami teorii wiedzy, Scholar Warszawa 2003.</p>													
Example issues/ example questions/ tasks being completed	<p>What is logical inference.</p> <p>Check if the given formula is tautology belongs to the classical logical calculus.</p> <p>What is logical division.</p> <p>What are syllogisms?</p>														

Work placement	Not applicable
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