



## 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	Mode of delivery			at the university			
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: 0.0							
Logika pragmatyczna dla inżynierów NSTAC 2022/2023 - Moodle ID: 27108 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=27108">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=27108</a>								
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_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		
	[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		

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="454 1373 794 1402">Subject passing criteria</th> <th data-bbox="799 1373 1139 1402">Passing threshold</th> <th data-bbox="1144 1373 1473 1402">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="454 1408 794 1438">Assignments</td> <td data-bbox="799 1408 1139 1438">50.0%</td> <td data-bbox="1144 1408 1473 1438">15.0%</td> </tr> <tr> <td data-bbox="454 1444 794 1473">Active participation</td> <td data-bbox="799 1444 1139 1473">50.0%</td> <td data-bbox="1144 1444 1473 1473">15.0%</td> </tr> <tr> <td data-bbox="454 1480 794 1509">Oral exam</td> <td data-bbox="799 1480 1139 1509">50.0%</td> <td data-bbox="1144 1480 1473 1509">70.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Assignments	50.0%	15.0%	Active participation	50.0%	15.0%	Oral exam	50.0%	70.0%
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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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