

Subject card

Subject name and code	Telemetry Data Engineering and Analytical Systems Scaling, PG_00183599						
Field of study	Informatics						
Date of commencement of studies	October 2023		Academic year of realisation of subject		2025/2026		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study Optional subject group		
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	practical		Assessment form		credit		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr Jakub Neumann				
	Teachers						
Lesson types	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		0.0		0.0	30
Subject objectives	Through: - lectures with discussion, - working with code and data as a starting point, - labs, - mentoring, unveil the mechanisms and techniques for working with Big Data, scaling solutions, and solving problems.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[INFL3_U03] is able to work in a team of IT specialists, including being able to manage his/her time, make commitments and meet deadlines, communicate using various techniques in the professional environment, including the use of dedicated tools		Students work in groups, sharing tasks, and carry out a team project using dedicated tools to analyze data and report on the system's status.		[SU2] presentation/project/paper/report		
	[INFL3_W08] has knowledge of the use of software development, maintenance and test tools and environments		Students have knowledge of issues related to data grouping, their variability, modeling relationships and prediction, they will know how to detect failures and identify anomalies		[SW2] presentation/project/paper/report		
	[INFL3_K02] can precisely formulate questions to deepen his/her own understanding of a given topic or to find missing elements of reasoning		Students, together with their lecturers and in groups, discuss and analyze telemetry data and draw conclusions about the state of the system.		[SK1] oral statement/conversation/discussion		

Subject contents	Students learn the material through lectures and discussions, working with code and data in the following areas: • Binning & Clustering grouping data • Variance analyzing data variation • Failure Detection detecting failures • Spikes identifying anomalies • Log Driven Development analyzing logs • Regression modeling relationships and predictions		
Prerequisites and co-requisites	Passed the course "Object-Functional Programming"		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Assessment of knowledge and skills during project presentation and discussion	51.0%	100.0%
Recommended reading	Basic literature	Observability Engineering, Charity Majors, Liz Fong-Jones, George Miranda, ISBN 1492076449	
	Supplementary literature	Analityk danych. Przewodnik po data science, statystyce i uczeniu maszynowym, Alex J. Gutman, Jordan Goldmeier	
	eResources addresses	Basic https://trainingportal.linuxfoundation.org/learn/course/getting-started-with-opentelemetry-lfs148/ - A free course dedicated to introducing the topic of Observability	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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