GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Data mining, PG_00045365		
Field of study	Data Engineering		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2025/2026
Education level	first-cycle studies	Subject group	Obligatory subject group in the field of study Subject group related to scientific research in the field of study
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 Software Engineering -> Faculty of Electronics, Telecommunications and Informatics		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Wojciech Waloszek	
	Teachers	dr inż. Wojciech Waloszek	

Lesson types and methods of instruction

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	5.0	40.0	75

Subject objectives

The goal of the course is to familiarize students with methods of data mining and to present a basic wireframe for data mining process. The main task of data mining, like prediction, classification and segmentation, are discussed and algorithms used for the tasks are presented. CRISP-DM is shown as an example of a data mining process.

Learning outcomes

Course outcome	Subject outcome	Method of verification

Subject contents

1. Data Mining Basics 2. Data Mining Process and Its Role within an Organisation 3. Representations of Data and Knowledge 4. Review of Basic Classifiers 5. Decision Trees 6. Classification Rules 7. Association Rules 8. Clustering 9. Examples of Numerical Prediction in Data Mining 10. Sources of Bias and Errors in the Data Mining Process 11. Engineering Input and Output 12. Other Data Mining Techniques

Prerequisites and co-requisites

No requirements

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Practical exercise	50.0%	50.0%
written test	50.0%	50.0%

Recommended reading

Basic literature	Basic literature: Ian H. Witten, Eibe Frank: "Data Mining: Practical Machine Learning Tools and Techniques", Morgan Kaufmann 2005. David J. Hand, Padhraic Smyth, Heikki Mannila: "Principles of Data Mining", The MIT Press 2001. Daniel T. Larose: "Metody i modele eksploracji danych", PWN 2008 (In Polish).
Supplementary literature	No recommendations
eResources addresses	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed	Sample issues: Exploratory Data Analysis. Generating decision trees. Segmentation of data sets.
Work placement	Not applicable

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