GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	SCORING MODELS, PG_00060728		
Field of study	Economic Analytics		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2024/2025
Education level	second-cycle studies	Subject group	Optional subject group 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	Polish
Semester of study	4	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	exam
Conducting unit	Department of Statistics and Econometrics -> Faculty of Management and Economics		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Błażej Kochański	
	Teachers	dr Błażej Kochański	

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	30.0	0.0	0.0	45
	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	45	4.0	26.0	75

Subject objectives	Assesses the credibility of the bank's client, reducing the risk by using scoring models

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_U04] prepares and presents convincing, professional presentations of analysis results, with their in-depth interpretation	presents a professional presentation of the results of scoring analyses, making an in-depth interpretation of the proposed ratings	[SU5] Assessment of ability to present the results of task
	[K7_W06] identifies reliable sources of information relevant to the analyzed issues	identify reliable sources of information for the purposes of assessing the customer's creditworthiness by banks and reducing the bank's risk	[SW1] Assessment of factual knowledge

Subject contents	• Terms: credit scoring, scoring card, creditworthiness, creditworthiness, risk assessment. • Typology of bank scoring models. • Data used in credit models. Credit information agencies. • Selection of variables, binning, missing data. • Good/bad customer, failure to repay (default), loss rate. • Construction of scoring models: statistical tools and machine learning methods. • Reject inference methods. • The use of logistic regression in credit risk assessment. • The use of classification trees. • Assessment of the quality of scoring models: error table, ROC curve, Gini coefficient, KS, lift. • Calibration of scoring models. • Use of scores. Establishing cut-off points. Risk-based pricing. • The process of building and implementing a scoring model, validation and monitoring. • Evolution of banking scoring models - the latest trends.

Prerequisites and co-requisites	

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Exam	60.0%	50.0%
	Problems/project	60.0%	50.0%

Recommended reading	Basic literature	• Naeem Siddiqi Intelligent credit scoring: building and implementing better credit risk scorecards John Wiley & Sons, 2017. • Raymond A. Anderson Credit intelligence & modelling: many paths through the forest Rayan Risk Analytics, Inc., 2019
	Supplementary literature	• Lyn Thomas, Jonathan Crook, David Edelman Credit scoring and its applications Society for Industrial and Applied Mathematics, 2017 • Mariola Kapla: O historii kredytowej i scoringu BIK ScoringExpert, 2019
	eResources addresses	Adresy na platformie eNauczanie: Modele scoringowe 2025 (stac.) - Moodle ID: 43115 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=43115
Example issues/ example questions/ tasks being completed	• Evaluate the discriminatory power of the model based on the data presented. • Assess the predictive power of individual features and their importance in the model. • Build a logistic regression model using the indicated variables. • Determine the cut-off point for a scoring card with the given properties	
Work placement	Not applicable	

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