GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	SCORING MODELS, PG_00067049		
Field of study	Economic Analytics		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2025/2026
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		

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

Applies scoring models in risk and profitability management of the bank and in other relevant contexts.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_W06] Knows and understands the principles of evaluating the reliability of utilized data, applying in-depth specialized knowledge in the field of economic analysis	identifies reliable information sources for assessing the creditworthiness of a bank client and building a scoring model	[SW1] Assessment of factual knowledge
[K7_U04] Prepares and delivers convincing presentations of the results of specialized analyses, providing in-depth interpretations during debates and meetings with diverse audiences.	presents a professional presentation of the results of scoring analyses, making an in-depth interpretation of the proposed evaluation	[SU5] Assessment of ability to present the results of task

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%
Tasks/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:
Example issues/ example questions/ tasks being completed	• Evaluate the discriminatory power of the model based on the data presented. • Build a logistic regression model using the indicated variables. • Determine the cut-off point for a scoring card with the given properties. • Assess the predictive power of individual features and their importance in the model.	
Work placement	Not applicable	

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