



Subject card

Subject name and code	SCORING MODELS, PG_00067055						
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	Part-time studies (on-line)	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	8.0	0.0	16.0	0.0	0.0	24
	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	24		4.0		47.0	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_W06] Knows and understands the principles of evaluating the reliability of utilized data, applying in-depth specialized knowledge in the field of economic analysis		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		
	[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 ratings		[SU5] Assessment of ability to present the results of task		
Subject contents	<ul style="list-style-type: none"> <li>• Terms: credit scoring, scoring card, creditworthiness, creditworthiness, risk assessment.</li> <li>• Typology of bank scoring models.</li> <li>• Data used in credit models. Credit information agencies.</li> <li>• Selection of variables, binning, missing data.</li> <li>• Good/bad customer, failure to repay (default), loss rate.</li> <li>• Construction of scoring models: statistical tools and machine learning methods.</li> <li>• Reject inference methods.</li> <li>• The use of logistic regression in credit risk assessment.</li> <li>• The use of classification trees.</li> <li>• Assessment of the quality of scoring models: error table, ROC curve, Gini coefficient, KS, lift.</li> <li>• Calibration of scoring models.</li> <li>• Use of scores. Establishing cut-off points. Risk-based pricing.</li> <li>• The process of building and implementing a scoring model, validation and monitoring.</li> <li>• Evolution of banking scoring models - the latest trends.</li> </ul>						
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	<ul style="list-style-type: none"> <li>Naeem Siddiqi Intelligent credit scoring: building and implementing better credit risk scorecards John Wiley &amp; Sons, 2017.</li> <li>Raymond A. Anderson Credit intelligence &amp; modelling: many paths through the forest Rayan Risk Analytics, Inc., 2019</li> </ul>
	Supplementary literature	<ul style="list-style-type: none"> <li>Lyn Thomas, Jonathan Crook, David Edelman Credit scoring and its applications Society for Industrial and Applied Mathematics, 2017</li> <li>Mariola Kapla: O historii kredytowej i scoringu BIK ScoringExpert, 2019</li> </ul>
	eResources addresses	Adresy na platformie eNauczenie:
Example issues/ example questions/ tasks being completed	<ul style="list-style-type: none"> <li>Evaluate the discriminatory power of the model based on the data presented.</li> <li>Build a logistic regression model using the indicated variables.</li> <li>Determine the cut-off point for a scoring card with the given properties.</li> <li>Assess the predictive power of individual features and their importance in the model.</li> </ul>	
Work placement	Not applicable	

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