

## GDAŃSK UNIVERSITY

## Subject card

Subject name and code	Statistics II, PG_00021508								
Field of study	Mathematics								
Date of commencement of studies	October 2022		Academic year of realisation of subject			2022/2023			
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	1		Language of instruction			Polish			
Semester of study	2		ECTS credits			5.0			
Learning profile	general academic profile		Assessment form			exam			
Conducting unit	Department of Nonlinear Analysis and Statistics -> Faculty of Applied Physics and Mathematics						cs		
Name and surname	Subject supervisor dr hab. Karol Dziedziul								
of lecturer (lecturers)	Teachers		dr hab. Karol Dziedziul						
			Michał Maj						
Lesson types and methods	Lesson type	Lecture	Tutorial	Laboratory	Projec	t	Seminar	SUM	
of instruction	Number of study hours	30.0	0.0	15.0	0.0		15.0	60	
	E-learning hours included: 0.0								
Learning activity and number of study hours	Learning activity	arning activity Participation ir classes includ plan		I didactic Participation in ed in study consultation hours		Self-study SUM			
	Number of study hours	60		5.0		60.0		125	
Subject objectives	The ability to use information criteria: Akaike criterion, Bayes criteria. Precise understanding the origin of these these criteria.						e origin of		
	For the model comparison methods of estimation and hypothesis verification methods.								
Learning outcomes	Course outcome		Subject outcome			Method of verification			
	K7_U10		we develope analyisis in handllig multi-dimensional data. They require the use of mathematical tools			[SU1] Assessment of task fulfilment			
	K7_W12		Work on the procedures in SAS			[SW1] Assessment of factual knowledge			
	K7_W05		we develope analyisis in handllig multi-dimensional data. They require the use of mathematical tools			[SW1] Assessment of factual knowledge			
	K7_U08		This knowledge is necessary to identify the models			[SU1] Assessment of task fulfilment			
	К7_К02		Students prepare presentations		[SK2] Assessment of progress of work				
Subject contents	Statistical decision functions: the loss function, risk function, acceptable decision rules, and piori distributions, Bayesian decisions, minimax decision rules. Tw. Rao-Blackwell theorem Hodges Lehmana.Informacje Kulbacka Leibler, Akaike Information Criteria. Nonparametric estimation								
Prerequisites and co-requisites	Mathematical Statistics and Statistics with SAS, Probabilistics								
Assessment methods	Subject passing criteria		Passing threshold			Percentage of the final grade			
and criteria	Half the exercises half an oral 60.0% 100.0%		-						

Recommended reading	Basic literature	M. Krzyśko Statystyka matematyczna II Wydawnictwo Naukowe UAM 2005 J. Bartoszewicz Wykłady ze Statystyki matematycznej PWN Warszawa 1989 Sadanori Konishi, Genshiro Kitagawa: "Information Criteria and Statistical Modeling" Springer Series in Statistics 2008			
	Supplementary literature	R. Zieliński Siedem wykładów wprowadzających do statystyki matematycznej PWN Warszawa 1990			
	eResources addresses	Adresy na platformie eNauczanie:			
Example issues/ example questions/ tasks being completed	Describe the method of Akaike				
Work placement	Not applicable				