University of Gdańsk

Subject card

Subject name and code	Probability and Statistics, PG_00190255		
Field of study	Historical game design		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2027/2028
Education level	Bachelor's studies	Subject group	Obligatory subject group 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	3	ECTS credits	2.0
Learning profile	academic	Assessment form	credit
Conducting unit			
Name and surname of lecturer (lecturers)	Subject supervisor	dr Paweł Klinga	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	15.0	0.0	0.0	0.0	15

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	15	0.0	35.0	50

Subject objectives

The aim of the course is to familiarize students with the basic concepts of probability theory and statistics, as well as their practical application.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[PGHL3_U02] Selects appropriate methods and tools, including information and communication techniques, to address specific problems	The student independently selects and applies appropriate probabilistic and statistical methods, using relevant digital tools to address a specific problem.	[SU4] test/exam - oral or written
[PGHL3_W07] Explains the possibilities of applying selected methods of analysis and interpretation of historical sources in the game development process	The student understands the importance of quantitative methods in the analysis of source materials and is able to indicate their relevance in the process of historical game design.	[SW4] test/exam - oral or written

Subject contents

Probability space
Conditional probability, total probability, Bayes theorem, independence of events
Discrete and continuous random variables
Probability distribution and cumulative distribution function of a random variable
Overview of standard probability distributions
Statistics of random variables: expected value, variance, moments, quantiles

Prerequisites and co-requisites

Knowledge of elementary mathematical tools.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Exam	51.0%	100.0%

Recommended reading	Basic literature	A. Plucińska, E. Pluciński, Probabilistyka: Rachunek prawdopodobieństwa. Statystyka matematyczna. Procesy stochastyczne, W. Krysicki, J. Bartos, W. Dyczka, K. Królikowska, M. Wasilewski, Rachunek prawdopodobieństwa i statystyka matematyczna w zadaniach część I i II
	Supplementary literature	G. Krzykowski, M. Szreder, Rachunek prawdopodobieństwa i statystyka matematyczna, cz. I S. Zubrzycki, Wykłady z rachunku prawdopodobieństwa i statystyki matematycznej Freund, Miller, Miller John E. Freunds, Mathematical Statistics with Applications
	eResources addresses	
Example issues/ example questions/ tasks being completed	Calculating probability from a given distribution Distinguishing probability distribution Finding average, variance and other statistics from a given data set	
Work placement	Not applicable	

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