

Subject card

Subject name and code	Probability and Statistics, PG_00073636						
Field of study	Historical game design						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
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	4		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr Pawel 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		2.0		15.0	32
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_K01] Critically evaluates his/her knowledge, demonstrates a willingness to constantly expand it and to consult experts when he/she has difficulty solving a problem on his/her own		The student critically analyzes the results of their own calculations and statistical interpretations, identifies gaps in their knowledge, independently seeks supplementary sources (literature, documentation, consultations), and, in the case of complex problems, is able to formulate questions and make use of support from the instructor or experts.		[SK1] oral statement/conversation/discussion		
	[PGHL3_W08] Has advanced interdisciplinary knowledge of various aspects of historical game development		The student proficiently uses selected methods of probability calculation with a view to applications in game design.		[SW4] test/exam - oral or written		
	[PGHL3_U02] Can select and apply methods and tools (including advanced information and communication techniques) in a manner appropriate to the problem being solved		The student performs basic statistical calculations on the provided data sets.		[SU4] 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. Kryszicki, 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. Friends, 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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