

Subject card

Subject name and code	Statistics - lecture, PG_00119891						
Field of study	Geography						
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	3		ECTS credits		2.0		
Learning profile	academic		Assessment form		exam		
Conducting unit	Climate Research Laboratory -> Department of Physical Oceanography and Climate Research -> Faculty of Oceanography and Geography -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. Mirosław Miętus				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	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		7.0		48.0	70
Subject objectives	The participant of the course will acquire knowledge in: use of basic statistical methods, ability to select statistical methods depending on the type of data, ability to interpret data and results of statistical procedures.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[GEOGRL3-W07] on advanced level methods of acquiring data on the natural and anthropogenic environment, including operation of specialized equipment	knows and understands to an advanced degree the methods of obtaining data on the natural and anthropogenic environment, program content: 1-10	[SW4] test/exam - oral or written
	[GEOGRL3-W08] at an advanced level methods and principles development of data on the natural and anthropogenic environment, and methods of their analysis and interpretation	knows and understands to an advanced degree the methods and principles of developing data on the natural and anthropogenic environment, as well as methods of their analysis and interpretation, program content: 1 - 10	[SW4] test/exam - oral or written
	[GEOGRL3-U07] use geoinformatics techniques and simple statistical tools and methods of spatial analysis to determine relationships between a variety of variables specific to the geographic environment and present the results of the analyses performed	is able to use simple statistical tools and methods of spatial analysis to determine the relationship between a variety of variables characteristic of the geographical environment and to present the results of the analysis carried out, curriculum content 1 - 4	[SU4] test/exam - oral or written
	[GEOGRL3-K02] bear full responsibility for the actions taken actions and adhere to the principles of professional ethics and principles of intellectual honesty, is aware of the importance of a professional approach in professional life professional life	is ready to bear full responsibility for actions taken and to observe the principles of professional ethics and intellectual honesty, is aware of the importance of a professional approach in professional life, program content 1 - 4	[SK8] observation of student's independent or team work
	[GEOGRL3-U06] apply methods and research tools of geographic sciences, including conducting observations and field measurements, and assess their suitability for the tasks in which the application objective of geography can be achieved	is able to apply methods and research tools in the field of geographic sciences and evaluate their suitability for the implementation of tasks in which the application goal of geography can be realized curricular content: 1-4	[SU4] test/exam - oral or written
Subject contents	1 Statistical investigation - theoretical basis2. Presentation of the results of statistical observation3 Statistical series4. Analysis of the structure of the community5. Measures of central tendency and dispersion (classical and positional)6. Analysis of interdependence - measures of correlation (for quantitative and qualitative variables)7. Regression models8. Time series analysis - trend, dynamic indicators, seasonal fluctuations9. Estimation theory, confidence intervals10. Statistical tests and hypothesis verification		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	exam	51.0%	100.0%
Recommended reading	Basic literature	Makać W., Urbanek-Krzysztofiak D., 2004. Methods of statistical description. University of Gdansk Publishing House, Gdansk, Poland. (in Polish)Balicki A., Makać W., 2010, Methods of statistical inference, University of Gdansk Publishing House, Gdansk, Poland.(in Polish)Norcliffe G. B., 1986, Statistics for geographers, PWN, Warsaw. (in Polish)	
	Supplementary literature	Luszniewicz A., Słaby T., 1997, Applied statistics, PWE, Warsaw. (in Polish)Augustyniak H., 1999, Descriptive statistics with elements of demography, Przedsiębiorstwo Wydawnicze "Ars boni et aequi", Poznań. (in Polish)Ignatczyk W., Chromińska M., 1999, Statistics. Theory and application. WSB, Poznań. (in Polish)Wieczorkowska G. (et al.), 2004 Statistics. Introduction to survey and experimental data analysis. Wydawnictwo Naukowe Scholar, Warsaw. (in Polish)	
	eResources addresses		
Example issues/ example questions/ tasks being completed	For a given statistical series, determine the mean, median, dominant Q1and Q3.The flow in a watercourse has a normal distribution with a known mean and standard deviation. Calculate the probability that the flow in this watercourse will be within the specified range of values.Using the data, determine the trend of changes in the average annual air temperature in the specified locality, check the statistical significance of the coefficient of the trend equation.		

Work placement	Not applicable
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