University of Gdańsk

Subject card

Subject name and code	Statistics - lecture, PG_00119891		
Field of study	Geography		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2025/2026
Education level	undergraduate 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	
Conducting unit	Pracownia Badań Klimatu -> Katedra Oceanografii Fizycznej i Badań Klimatu -> Faculty of Oceanography and Geography		
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-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
[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-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-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-W07] on advanced level methods of aquiring 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

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	Adresy na platformie eNauczanie:

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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