University of Gdańsk

Subject card

Subject name and code	Elements of statistics and quantitative data analysis - lecture, PG_00149003		
Field of study	Sociology		
Date of commencement of studies	October 2027	Academic year of realisation of subject	2027/2028
Education level	Master'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	1	Language of instruction	Polish
Semester of study	1	ECTS credits	1.0
Learning profile	academic	Assessment form	exam
Conducting unit	Institute of Sociology -> Faculty of Social Sciences -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Maciej Brosz	
	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	2.0	8.0	25

Subject objectives

The main objective of the course is to equip students with the knowledge and skills necessary to conduct sociological research using advanced statistical tools (measures), interpret the obtained results and formulate final conclusions based on the analysis and interpretation of independently gathered statistical material.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[SOCMU2_U06] The graduate uses the acquired knowledge to solve dilemmas arising in professional work, can critically evaluate the effectiveness and usefulness of sociological knowledge in various areas of work	The participant ss able to select a data analysis method for a given case. Knows the criteria for selecting data analysis methods and statistical tests.	[SU8] observation of student's independent or team work
[SOCMU2_U08] The graduate is able to analyse and understand many current social phenomena in the context of knowledge about the mechanisms of human activity, the impact of a group on an individual, the processes of change in Polish, European and world society, and is able to relate his/her understanding of these phenomena to theoretical explanations and results of social research	The graduate is able to interpret the results of analyses in order to diagnose the studied area.	[SU4] test/exam - oral or written
[SOCMU2_W06] The graduate has in-depth knowledge and understanding of quantitative and qualitative methods of sociological research, including observation, interview, document analysis and desk research, and how to develop and report research findings	The graduate knows and understands in-depth the methods of quantitative sociological research, the rules of statistical inference and knows the methods of developing and reporting research results.	[SW4] test/exam - oral or written

Subject contents	1. Detecting relationships between variables: contingency tables coefficients: Yul, Goodman and Kruskal, Kendall, Pearson, Cramer. 2. Detecting relationships between variables: chi-square test of independence, Yates' continuity correction, Fisher's exact test, correlation ratio, Spearman's rank correlation coefficient. 3. Regression analysis. Linear regression. Least squares method. Pearson's r-correlation coefficient. 4. Regression analysis. Curvilinear regression. 5. Multiple correlation. 6. One-way analysis of variance and ANOVA. 7. MANOVA. 8. Regression analysis: Multiple regression. Introduction to structural equation analysis.
Prerequisites and co-requisites	Holding a bachelor's degree. Completion of a basic statistics course.The knowledge of the basics of statistics.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Written exam.	40.0%	100.0%

Recommended reading

Basic literature	Bedyńska, S., Brzezicka, A., (red.). (2007), Statystyczny drogowskaz. Praktyczny poradnik analizy danych w naukach społecznych na przykładach z psychologii, Wydawnictwo SWPS Academica, Warszawa.
Supplementary literature	1. Malarska, A., (2006), Statystyczna analiza danych wspomagana programem SPSS, SPSS Polska, Kraków. 2. Mayntz, R., Holm, K., Hübner, P., (1985), Wprowadzenie do metod socjologii empirycznej, Państwowe Wydawnictwo Naukowe, Warszawa. 3. Nawojczyk, M., (2002), Przewodnik po statystyce dla socjologów, SPSS Polska, Kraków. 4. Nowak, S., (1970), Metodologia badań socjologicznych. Zagadnienia ogólne, Państwowe Wydawnictwo Naukowe, Warszawa. 5. Pawłowski, T., (1978), Tworzenie pojęć i definiowanie w naukach humanistycznych, Państwowe Wydawnictwo Na-ukowe, Warszawa. 6. Wieczorkowska, G., Wierzbiński, J., (2007), Statystyka. Analiza badań społecznych, Wydawnictwo Naukowe Scholar, Warszawa. 7. Biecek, P., (2014), Przewodnik po pakiecie R, Oficyna wydawnicza GIS, Wrocław. 8. Babbie, E., (2005), Badania społeczne w praktyce, Wydawnictwo Naukowe PWN, Warszawa. 9. Frankfort-Nachmias, C., Nachmias, D., (2001), Metody badawcze w naukach społecznych, Zysk i S-ka, Poznań. 10. Górniak, J., Wachnicki, J., (2008), Pierwsze kroki w analizie danych, SPSS Polska, Kraków. 11. Pawłowski, T., (1977), Pojęcia i metody współczesnej humanistyki, Zakład Narodowy im. Ossolińskich, Warszawa. 12. Biecek, P., (2014), Przewodnik po pakiecie R, Oficyna wydawnicza GIS, Wrocław. 13. Wieczorkowska, G., Kochański, P., Eljaszuk, M., (2004), Statystyka. Wprowadzenie do analizy danych sondażowych i eksperymentalnych, Scholar, Warszawa.
eResources addresses	

Example issues/ example questions/ tasks being completed	
Work placement	Not applicable

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