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 2024	Academic year of realisation of subject	2024/2025
Education level	postgraduate studies	Subject group	
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish Classes conducted using the R statistical analysis programming language.
Semester of study	1	ECTS credits	1.0
Learning profile	academic	Assessment form	
Conducting unit	Instytut Socjologii -> Faculty of Social Sciences		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Maciej Brosz	
	Teachers	dr Maciej Brosz	

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.

<table>
<tr><td>Learning outcomes</td><td>
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<tr><th>Course outcome</th><th>Subject outcome</th><th>Method of verification</th></tr>
<tr><td>[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</td><td>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.</td><td>[SW4] test/exam - oral or written</td></tr>
<tr><td>[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</td><td>The graduate is able to interpret the results of analyses in order to diagnose the studied area.</td><td>[SU4] test/exam - oral or written</td></tr>
<tr><td>[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</td><td>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.</td><td>[SU8] observation of student's independent or team work</td></tr>
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<tr><td>Subject contents</td><td>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.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>Holding a bachelor's degree.

Completion of a basic statistics course.The knowledge of the basics of statistics.</td></tr>
<tr><td>Assessment methods and criteria</td><td>
<table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Written exam.</td><td>40.0%</td><td>100.0%</td></tr>
</table>
</td></tr>
<tr><td>Recommended reading</td><td>Basic literature</td><td>Bedyńska, S., Brzezicka, A., (red.). (2007), Statystyczny drogowskaz. Praktyczny poradnik analizy danych w naukach społecznych na przykładach z psychologii, Wydawnictwo SWPS Academica, Warszawa.</td></tr>
</table>

	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	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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