University of Gdańsk

Subject card

Subject name and code	Quantitative methods in spatial planning - lecture, PG_00201242		
Field of study	Spatial Management		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2027/2028
Education level	Bachelor's studies	Subject group	Obligatory subject group in the field of study Subject group related to scientific research 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	credit
Conducting unit	Institute of Socio-Economic Geography and Spatial Management -> Faculty of Social Sciences -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Tomasz Michalski	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	0.0	0.0	0.0	0.0	30

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	30	0.0	20.0	50

Subject objectives

The aim of the course is to provide knowledge about a package of statistical analytical tools used in analyses related to spatial planning and development issues. In addition, it aims to provide knowledge about the virtualization of socio-economic data. Students will acquire the skills and competences to apply both of these tools in deciding on the appropriate tools for a given problem.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GPL3_W04] knows and understands at an advanced level, the aims and conditions of using basic methods of quantitative analysis and interpretation of spatial processes and phenomena	lists the types, purposes and conditions of application of quantitative methods for analysing and interpreting spatial processes and phenomena based on statistics	[SW4] test/exam - oral or written
[GPL3_K01] is ready to make decisions independently and be responsible for the effects of their own actions and those of their team's	decides independently on the choice of analytical method depending on the problem at hand and is aware of the consequences of this decision for the analytical process	[SK4] test/exam - oral or written
[GPL3_U04] makes the correct selection of basic quantitative methods (including field research), uses them in the analysis of spatial diversity of natural, social or economic phenomena and also makes a correct interpretation of the results on the basis of the specificity of selected methods	selects quantitative methods for analysing and interpreting spatial data	[SU4] test/exam - oral or written
[GPL3_U02] correctly identifies and explains the conditions of spatial management of a particular area and forecasts the impact of basic social processes on the structure of spatial development, and on this basis proposes adequate actions within spatial policy, in particular in relation to Polish maritime areas and voivodeships of northern Poland	uses methods for forecasting the impact of economic and social processes and phenomena on spatial development	[SU4] test/exam - oral or written

Subject contents

Statistics as a science. Measures of a single variable, correlation and regression. Selected methods of multivariate analysis. Methods of visualizing socioeconomic data.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
written exam	51.0%	100.0%

Recommended reading

Basic literature

- Augustyniak H., 1999, Statystyka opisowa z elementami demografii, Przedsiębiorstwo Wydawnicze Ars boni et aequi, Poznań.
- Iwaniak A., Olszewski R., Gotlib D., 2008, GIS. Obszary zastosowań, Wydawnictwo Naukowe PWN, Warszawa.
- Makać W., Urbanek-Krzysztofiak D., 2003, Metody opisu statystycznego, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk.
- Stanisz A., 20062007, Przystępny kurs statystyki w oparciu o program STATISTICA PL na przykładach z medycyny (Tomy: I, II, III), StatSoftPolska, Kraków.
- Wrona J., 2004, Podstawowe metody kartografii społeczno-gospodarczej, Wydawnictwo Akademii Ekonomicznej w Krakowie, Kraków.

Supplementary literature

- Luszniewicz A., Słaby T., 1997, Statystyka stosowana, PWE, Warszawa.
- Runge J., 2007, Metody badań w geografii społeczno-ekonomicznej elementy metodologii, wybrane narzędzia badawcze, Wyd. UŚ., Katowice.
- Sobczyk M., 2003, Statystyka. Podstawy teoretyczne, przykłady zadania, Wydawnictwo UMCS, Lublin.

eResources addresses

Basic

http://stat.gov.pl/statystykaregionalna/publikacje-regionalne/podreczniki-atlasy/podreczniki/mapy-statystyczne-opracowanie-i-prezentacja-danych,1,1.html - Pieniążek M., Zych M., 2017, Mapy statystyczne. Opracowanie i prezentacja danych, GUS, Warszawa,

Example issues/ example questions/ tasks being completed

Visualization using a specified method.

Determining the nature of a variable.

Application of a specified method.

Work placement	Not applicable

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