



Subject card

Subject name and code	SPATIAL ECONOMETRICS, PG_00067533						
Field of study	Economic Analytics						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2025/2026		
Education level	second-cycle 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	1		Language of instruction		Polish		
Semester of study	2		ECTS credits		4.0		
Learning profile	general academic profile		Assessment form		exam		
Conducting unit	Department Of Statistics And Econometrics -> Faculty Of Management And Economics -> Wydział Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor						
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	30.0	0.0	0.0	45
	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	45		5.0		50.0	100
Subject objectives	Analyzes socio-economic phenomena using spatial data, creating innovative solutions to complex problems as a team						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_U01] creates innovative solutions for complex and unstructured processes, considering unpredictable environmental conditions through the synthesis of information from various sources.		creates innovative solutions to complex and unstructured problems by adapting the methods used to the nature of the analyzed economic phenomena by synthesizing information from many sources		[SU4] Assessment of ability to use methods and tools		
	[K7_W02] understands the significance and interrelationships of key components describing economic processes, drawing on in-depth knowledge aligned with major developmental trends in scientific disciplines related to the field of economic analytics.		identifies interactions in space between variables describing socio-economic phenomena, using knowledge consistent with the main trends in the development of econometric research		[SW1] Assessment of factual knowledge		
	[K7_U05] collaborates with others in team projects, effectively fulfilling both leadership and team member roles to achieve established goals.		performs analytical work demonstrating the ability to work in a team		[SU3] Assessment of ability to use knowledge gained from the subject		

Subject contents	Introduction to spatial data analysis Classification and visualization of spatial data Drawing quantile, box and other maps in GeoDa and QGis Basics of grouping and classification in spatial studies Concentration and specialization in spatial economic analyzes (location coefficients, Lorenz curve, Gini index, regional specialization indices) Statistical measures and tests in exploratory analysis of spatial data (spatial heterogeneity and autocorrelation) Weight matrices and testing of global and local spatial autocorrelation One-equation and one-dimensional models of spatial regression types of spatial interactions in the econometric model Construction of spatial models with different types of interactions, MP estimation and verification, spatial model selection procedure Panel spatial models construction The procedure for selecting a panel spatial model Multi-equation MP spatial models of apparently independent regressions Spatial models with jointly interdependent equations		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Project and written test	55.0%	40.0%
	Quizzes	0.0%	10.0%
	Exam	55.0%	50.0%
Recommended reading	Basic literature	Kopczewska K., Ekonometria i Statystyka przestrzenna z wykorzystaniem programu R Cran, Wyd. CeDeWu Warszawa 2007 Sucheck B. red. nauk., Ekonometria przestrzenna. Metody i modele, analizy danych przestrzennych, Wyd. C.H.Beck, Warszawa 2010 Sucheck B. red. nauk., Ekonometria przestrzenna II. Modele zaawansowane, Wyd. C.H.Beck, Warszawa 2012	
	Supplementary literature	Baltagi B.H., Econometric Analysis of Panel Data, 5th ed, Wiley, Chichester 2014 Sucheck J. red.nauk., Statystyka przestrzenna. Metody analizy struktur przestrzennych, Wyd. C.H.Beck, Warszawa 2014	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	Based on the spatial data of the Central Statistical Office, conduct an analysis of the location and concentration of the number of employees by sectors and voivodeships from the selected year		
Work placement	Not applicable		

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