



Subject card

Subject name and code	SPATIAL ECONOMETRICS - A TEAM PROJECT, PG_00066433						
Field of study	Economic Analytics						
Date of commencement of studies	October 2024	Academic year of realisation of subject			2024/2025		
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			e-learning		
Year of study	1	Language of instruction			English		
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						
Name and surname of lecturer (lecturers)	Subject supervisor		Dagna Wleklińska				
	Teachers		Dagna Wleklińska				
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: 45.0						
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		4.0		51.0	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_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_U01] Develops innovative solutions for complex and unstructured processes, considering unpredictable environmental conditions by synthesizing information from multiple 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_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	<p>I. Spatial Data Analysis II. Inference and Spatial Data III. Spatial Statistics; Spatial Econometrics: First Motivations IV. Spatial and Temporal Autocorrelation V. Mutual Influences of Cross-Sectional Observations; Networks of Cross-Sectional Relationships VI. Autocorrelation Tests and Model Specification VII. Spatial Autoregressive Models: Conditional (CAR) and Simultaneous (SAR) VIII. Estimating Spatial Models: Methods (GMM, ML, Bayesian) IX. Eigenvectors and Eigenvalues of Networks of Cross-Sectional Relationships X. Non-Orthogonality of Regression and Autoregressive Coefficients XI. Prediction and Spatial Models XII. Spatial Panel Models XIII. LMM, GLMM, GAM Models, Discrete Spatial Econometric Models XIV. Multilevel Spatial Models</p>		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
Recommended reading	Basic literature	<p>Kopczewska K., Ekonometria i Statystyka przestrzenna z wykorzystaniem programu R Cran, Wyd. CeDeWu Warszawa 2007 Suchecki B. red. nauk., Ekonometria przestrzenna. Metody i modele, analizy danych przestrzennych, Wyd. C.H.Beck, Warszawa 2010 Suchecki B. red. nauk., Ekonometria przestrzenna II. Modele zaawansowane, Wyd. C.H.Beck, Warszawa 2012</p>	
	Supplementary literature	<p>Baltagi B.H., Econometric Analysis of Panel Data, 5th ed, Wiley, Chichester 2014 Suchecka J. red.nauk., Statystyka przestrzenna. Metody analizy struktur przestrzennych, Wyd. C.H.Beck, Warszawa 2014</p>	
	eResources addresses	<p>Adresy na platformie eNauczanie: Spatial Econometrics - a team project 2024/2025 - Moodle ID: 42792 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=42792</p>	
Example issues/ example questions/ tasks being completed	<p>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</p>		
Work placement	Not applicable		

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