

Subject card

Subject name and code	Quantitative Research, PG_00174096						
Field of study	Logistics and Mobility						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2025/2026		
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		English		
Semester of study	2		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Department of Transport Market -> Faculty of Economics -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Aleksander Jagiełło				
	Teachers		dr Aleksander Jagiełło				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	15.0	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		15.0		20.0	50
Subject objectives	The goal of the subject is to acquaint the students with the contemporary, widely-used statistical methods so that they are able to understand and correctly interpret current literature and also to make sure that they are able to use the methods necessary to perform research for their thesis.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[LMMU2_K05] correctly identifies, diagnoses and solves dilemmas and alternative solutions related to the profession	correctly identifies, diagnoses and resolves dilemmas and various options for solutions related to the profession	[SK1] oral statement/conversation/discussion [SK5] implementation of a problem task
	[LMMU2_U09] has an advanced ability to prepare specialist written assignments concerning logistics and mobility issues, using specialist theoretical and methodological approaches, collecting various sources of data, their description and interpretation, the principles of hypothesis formulation and drawing conclusions on the basis of scientific literature and factual data, and can make extensive international comparisons	has an in-depth ability to prepare specialized written work on issues of logistics and mobility, using specialized theoretical and methodological approaches, collecting various sources of data, their description and interpretation, the principles of formulating hypotheses and making inferences on the basis of scientific literature and factual data, and is able to make developed international comparisons	[SU1] oral statement/conversation/discussion [SU5] implementation of a problem task
	[LMMU2_U06] can practically apply various forms and range of acquired knowledge in logistics and mobility, supplementing it with an independent critical analysis of its efficiency and usefulness	Has the ability to put into practice the various forms and scope of the acquired knowledge of logistics and mobility, complementing it with an independent critical analysis of its effectiveness and usefulness	[SU1] oral statement/conversation/discussion [SU5] implementation of a problem task
	[LMMU2_U03] can analyse causes and course of logistics and mobility processes and systems, formulate his/her own opinions on the subject, construct research hypotheses, and select and apply methods of their verification	is able to analyze the causes and course of logistic and mobility processes and systems, formulate his own opinions on the subject, make research hypotheses and select and apply methods for their verification	[SU1] oral statement/conversation/discussion [SU5] implementation of a problem task
	[LMMU2_U10] has an advanced ability to prepare specialist oral presentations on logistics and mobility issues, using specialist theoretical approaches, the principles of collecting various sources of data, their description and interpretation, and drawing conclusions based on scientific literature; can prepare and conduct a debate	has an in-depth ability to prepare specialized oral presentations on issues of logistics and mobility, using specialized theoretical approaches, principles of collecting various sources of data, their description and interpretation, and inference on the basis of scientific literature, is able to prepare and lead a debate	[SU1] oral statement/conversation/discussion [SU5] implementation of a problem task
	[LMMU2_W06] knows statistical and econometric methods and tools for description and macro- and microeconomic modelling of logistics and mobility processes and systems	knows statistical and econometric methods and tools for describing and modeling macro- and microeconomic processes and systems of logistics and mobility	[SW1] oral statement/conversation/discussion [SW5] implementation of a problem task
	[LMMU2_U07] can independently propose solutions to complex logistics and mobility problems, select methods of analysis and conduct conclusive procedures in this respect	is able to independently propose solutions to a complex problem in the field of logistics and mobility, choose methods of analysis and carry out conclusive procedures in this area	[SU1] oral statement/conversation/discussion [SU5] implementation of a problem task
	[LMMU2_U04] can forecast and model complex economic and social processes, as well as logistics and mobility processes and systems using quantitative and qualitative methods and tools developed by economic sciences (including statistics and econometrics)	is able to forecast and model complex economic and social processes, as well as logistics and mobility processes and systems, using quantitative and qualitative methods and tools developed by economic sciences (including statistics and econometrics)	[SU1] oral statement/conversation/discussion [SU5] implementation of a problem task
	[LMMU2_U01] can creatively interpret and explain economic and social phenomena and relations between them, using acquired knowledge of economics, finance, management sciences, logistics and mobility	is able to creatively interpret and explain economic and social phenomena and the relationships between them, using the acquired knowledge of economics, finance, management sciences, logistics and mobility	[SU1] oral statement/conversation/discussion [SU5] implementation of a problem task

	<table><tr><th>Course outcome</th><th>Subject outcome</th><th>Method of verification</th></tr><tr><td>[LMMU2_U02] can use acquired knowledge to describe and analyse the causes and course of logistics and mobility processes and systems, and can formulate his/her own opinions and critically select data and analysis methods based on the achievements of economic and social sciences</td><td>is able to use the acquired knowledge to describe and analyze the causes and course of logistics and mobility processes and systems, and is able to formulate his own opinions and critically select data and methods of analysis based on the achievements of economic and social sciences</td><td>[SU1] oral statement/conversation/discussion [SU5] implementation of a problem task</td></tr></table>	Course outcome	Subject outcome	Method of verification	[LMMU2_U02] can use acquired knowledge to describe and analyse the causes and course of logistics and mobility processes and systems, and can formulate his/her own opinions and critically select data and analysis methods based on the achievements of economic and social sciences	is able to use the acquired knowledge to describe and analyze the causes and course of logistics and mobility processes and systems, and is able to formulate his own opinions and critically select data and methods of analysis based on the achievements of economic and social sciences	[SU1] oral statement/conversation/discussion [SU5] implementation of a problem task
Course outcome	Subject outcome	Method of verification					
[LMMU2_U02] can use acquired knowledge to describe and analyse the causes and course of logistics and mobility processes and systems, and can formulate his/her own opinions and critically select data and analysis methods based on the achievements of economic and social sciences	is able to use the acquired knowledge to describe and analyze the causes and course of logistics and mobility processes and systems, and is able to formulate his own opinions and critically select data and methods of analysis based on the achievements of economic and social sciences	[SU1] oral statement/conversation/discussion [SU5] implementation of a problem task					
Subject contents	1) Introduction to distributions and hypothesis verification 2) Comparisons of means 3) Analysis of variance 4) Factor analysis 5) Regression (linear, logistic, survival) Any doubts regarding the issues discussed will be dispelled during the consultation.						
Prerequisites and co-requisites	A basic knowledge of probability theory and mathematical analysis and algebra is advised to handle the material covered in this class.						
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade				
	out tasks on a class-to-class basis	51.0%	100.0%				
Recommended reading	Basic literature	1. R.B. Kline, Principles and practice of structural equation modeling The Guilford Press 2016 2. J.L. Devore, K.N. Berk, Modern Mathematical Statistics with Applications, Springer 2018 3. C. Hirotsu, Advanced Analysis of Variance, Wiley & Sons 2017					
	Supplementary literature	1. Suchanek, M., & Szmelter-Jarosz, A. (2019). Environmental aspects of generation Ys sustainable mobility. Sustainability, 11(11), 3204. 2. Adamska-Mieruszevska, J., Mrzyglód, U., Suchanek, M., & Fornalska-Skurczyńska, A. (2021). Keep it simple. The impact of language on crowdfunding success. Economics & Sociology, 14(1), 130-144.					
	eResources addresses						
Example issues/ example questions/ tasks being completed							
Work placement	Not applicable						

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