

Subject card

Subject name and code	Operational and work process analytics , PG_00123466						
Field of study	Economics						
Date of commencement of studies	October 2024	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	2	Language of instruction			Polish		
Semester of study	3	ECTS credits			4.0		
Learning profile	academic	Assessment form			credit		
Conducting unit	Department of Economics and Management of Transportation Companies -> Faculty of Economics -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Michał Suchanek				
	Teachers		dr hab. Michał Suchanek				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	30.0	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		0.0	30
Subject objectives	The purpose of the course is to familiarize the student with the specifics of the operational sphere and work in the enterprise. After taking the course, the student should have the ability to apply analytical techniques based on qualitative and quantitative methods.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[EKONMU2_K01] recognises the importance of knowledge in the field of economics in the process of identifying and solving economic problems and of consulting experts when having difficulties in solving them independently	Identifies inefficiencies in the functioning of the operational and labor spheres of the enterprise and knows how to synthesize expert knowledge in this area	[SK4] test/exam - oral or written [SK5] implementation of a problem task
	[EKONMU2_U02] can use acquired knowledge to describe and analyse the causes and course of economic and social processes and phenomena, and can formulate his/her own opinions and critically select data and analysis methods based on the achievements of economic and social sciences	can describe the functioning of the operating system and analyze the effectiveness of the work system in the enterprise	[SU4] test/exam - oral or written [SU5] implementation of a problem task
	[EKONMU2_U04] can forecast and model complex economic and social processes using quantitative and qualitative methods and tools developed by economic sciences (including statistics and econometrics)	is able to build quantitative operational models using complex analytical techniques, with particular emphasis on quantitative forecasting	[SU4] test/exam - oral or written [SU5] implementation of a problem task
	[EKONMU2_W04] knows different types of economic and social ties and regularities governing them; has an in-depth knowledge of economic and financial ties between enterprises	Understands the interrelationships between the subsystems of enterprise operations and also at the interface between the enterprise and markets	[SW4] test/exam - oral or written [SW5] implementation of a problem task
	[EKONMU2_W08] has an in-depth knowledge of processes occurring in enterprises and economic organisations and with related areas, as well as of processes of change in public institutions; knows methods of research on the regularities governing these changes, taking into account the influence of external stakeholders on them	Has an in-depth knowledge of the processes taking place in enterprises and economic organizations in the field of labor and production systems; understands the influence of the labor market and the market of production factors on these processes	[SW4] test/exam - oral or written [SW5] implementation of a problem task
	[EKONMU2_W06] knows statistical and econometric methods and tools for description and macro- and microeconomic modelling of economic structures and public institutions and processes occurring in them	knows and uses methods of linear programming, dynamic programming, graph theory, network analysis, UMEWAP	[SW4] test/exam - oral or written [SW5] implementation of a problem task
	[EKONMU2_U07] can independently propose solutions to complex economic or social problems, select methods of analysis and conduct conclusive procedures in this respect	is able to independently propose solutions to a complex operational or personnel problem in the enterprise using appropriate methods of analysis	[SU4] test/exam - oral or written [SU5] implementation of a problem task
Subject contents	<p>Systematics of specific issues of operational and labor analytics Quantitative and qualitative methods in operations and labor research Analytics of material demand Analytics of transportation issues Analytics of the production flow Analytics of capacity utilization Analytics of labor resources Analytics of labor organization issues Analytics of labor valuation processes</p>		
Prerequisites and co-requisites	<p>The necessary scope of the student's knowledge is the identification of management functions and process approaches found in process approaches found in enterprises, so that knowledge of decision theory, including optimization theory, can be used in the education of this subject. A prerequisite is the ability to freely choose mathematical and statistical methods.</p>		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
		50.0%	80.0%
		50.0%	20.0%

Recommended reading	Basic literature	<p>1. Ekonometria i badania operacyjne, pod red. M. Gruszczyńskiego, PWN. Warszawa 2022.</p> <p>2. Metodologia wartościowania pracy pod red. Z. Martyniaka, PWN. Warszawa 2014.</p> <p>3. Armstrong M.: Zarządzanie wynagrodzeniami, Oficyna a Walters Kluwer business. Kraków 2021.</p>
	Supplementary literature	<p>1. Wagner H.M.: Badania operacyjne, PWE. Warszawa 1980.</p> <p>2. Suchanek, M. Badania operacyjne ograniczeń aktywności organizacji pozarządowych w kształtowaniu metropolitalnego rynku transportowego Trójmiasto. Studia Ekonomiczne 165, 2014.</p> <p>3. Borkowska S.: Strategie wynagrodzeń, Oficyna ekonomiczna. Kraków, 2021.</p>
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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