Subject card

Subject name and code	FORECASTING AND OPTIMIZATION IN LOGISTICS, PG_00037869
Field of study	Management

Date of commencement of studies	October 2022	Academic year of realisation of subject	2023/2024
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	2	Language of instruction	English
Semester of study	3	ECTS credits	2.0
Learning profile	general academic profile	Assessment form	assessment

Conducting unit	Faculty of Management and Economics

Name and surname of lecturer (lecturers)	Subject supervisor	dr Mateusz Muchlado
	Teachers	dr Mateusz Muchlado mgr Anna Wendt

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	30.0	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	2.0	18.0	50

Subject objectives	Acquiring knowledge and skills in using tools to support and optimize logistics processes.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_W07] knows in depth selected methods and techniques of data acquisition, enabling analysis and modelling of structures and socio-economic relations, processes taking place and their impact on the implementation of objectives of the organization, including government administration, local government and non-profit organizations	The student has knowledge of the basics of managing logistics and warehouse systems.	[SW1] Assessment of factual knowledge
	[K7_W11] has an in-depth knowledge of the creation, operation and design of management structures and systems and their improvement in the process of achieving objectives	The student has knowledge and skills in implementing process optimizations in the area of logistics	[SW3] Assessment of knowledge contained in written work and projects
	[K7_U02] analyses complex economic processes and phenomena using selected methods and techniques for analysing socio-economic data, and formulates their own opinions and conclusions concerning these processes and phenomena	The student is able to use basic tools and methods of statistical analysis of demand and supply in order to make strategic decisions in the area of logistics	[SU4] Assessment of ability to use methods and tools
	[K7_K04] acts in accordance with the principles of building relations and managing processes and projects, organizing them for the benefit of the company and anticipating the consequences of decisions made	The student is able to design and present solutions that can optimize logistics areas.	[SK1] Assessment of group work skills

Subject contents	1. Basics of logistics processes and management methods.2. Basics of warehouse management, assortment organization strategies.3. Naive methods in estimating storage demand.4. Statistical methods of controlling logistics processes.5. Risk management in logistics processes.6. Simulation game regarding internal transport processes and resource-based planning.
Prerequisites and co-requisites	Basic knowledge of economics and management, English language usage

Assessment methods and criteria			
	Subject passing criteria	Passing threshold	Percentage of the final grade
	Final exam	60.0%	50.0%
	In-semester mini-project's	60.0%	50.0%

Recommended reading	Basic literature	Multimedia presentation, available on the e-learning platform. Additional materials available on the e-learning platform.
	Supplementary literature	Fernie, John, and Leigh Sparks, eds. *Logistics and retail management: emerging issues and new challenges in the retail supply chain*. Kogan page publishers, 2018. McKinnon, Alan, et al., eds. *Green logistics: Improving the environmental sustainability of logistics*. Kogan Page Publishers, 2015.
	eResources addresses	Podstawowe https://enauczanie.pg.edu.pl/moodle/course/view.php?id=33065 - Online materials on e-nauczanie platform Adresy na platformie eNauczanie: Forecasting and optimalization in logistics (Winter23/24) - Moodle ID: 33065 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=33065

Example issues/ example questions/ tasks being completed	1. Choose the best inventory management strategy for your dairy wholesaler. 2. Choose the best demand forecasting system for seasonal products 3. Present a risk analysis for the selected procurement process 4. Propose a strategy for internal product logistics in the factory
Work placement	Not applicable