Course title	Decision Making Support for Logistics		ECTS code	14.03.5368
			ECTS credits	5
			max. students	30

Name of unit administrating study	KL	Field of study	MSG**	Field of specialisation	NONE;

Teaching staff	Leszek Reszka, Associate Professor

Number of hours							
Lectures	0	Classes	0	Tutorials	0	Laboratory	30	Seminars	0	Language classes	0

Forma aktywności		Year&Type of studies*	3 SS1, 2 SS2,
Hours with the participation of the academic teacher (including office hours, exams, others):	50	Semester:	6, 4,
Hours without the participation of the academic teacher (student's self-study, homeworks):	0	Type of course:	optional
Total number of hours:	50	Language of instruction:	English

Teaching form	in-class learning
Teaching methods	Lectures including multimodal presentations, Activating methods in training classes, Work in computer laboratories, Case studies, Collaborating, group activities,

Prerequisites (required courses and introductory requirements)	
Required courses	Microeconomics, macroeconomics.
Introductory requirements	Basic economic knowledge.

Assessment method, forms and criteria	
Assessment method	Course completion (graded)
Assessment criteria	The final mark consists of: • active participation in classes (monitored on an ongoing basis by the teacher) • evaluation of projects prepared in teams • test which is an optional possibility to improve the mark

Course objectives
The aim of the subject is to provide the knowledge and practical skills in making of managerial decisions in logistics Moreover, students expand their vocabulary in English terminology in the field of logistics and decisions making By preparing project, they develop skills of teamwork.

Learning outcomes		
Knowledge	MSG1_W01	Student knows the idea of the logistic processes and logistic systems in organizations.
	MSG2_W01	Student knows the idea of the logistic processes and logistic systems in organizations.
	MSG1_W10	Student knows the methods supporting the decision making process.
	MSG2_W13	Student knows the methods supporting the decision making process.

Verification of learning outcomes - Knowledge											
Outcomes	written exam	oral exam	test	essay/paper /portfolio	tasks/ homeworks	individual presentation	group presentation	classroom activities	classroom discussion	individual project	group project
MSG1_W01			X				X	X			
MSG2_W01			X				X	X			
MSG1_W10			X				X	X			
MSG1_W13			X				X	X			

Skills	MSG1_U08	Student applies the methods supporting the decision making process in logistics for organizations, makes a project for the organization in the area of logistics with the use of methods of forecasting and optimization.
	MSG2_U11	Student applies the methods supporting the decision making process in logistics for organizations, makes a project for the organization in the area of logistics with the use of methods of forecasting and optimization.
	MSG1_U14	Student can work in groups.
	MSG2_U12	Student can work in groups.

Verification of learning outcomes - Skills

Outcomes	written exam	oral exam	test	essay/paper /portfolio	tasks/ homeworks	individual presentation	group presentation	classroom activities	classroom discussion	individual project	group project
MSG1_U08			X				X	X			
MSG1_U11			X				X	X			
MSG1_U14			X				X	X			
MSG2_U12			X				X	X			

Course contents

1) The fundamentals of logistics
- definition of logistics,
- goals of logistics,
- logistic support system's components,
2) Forecasting in logistics
- the role of forecasts in logistics,
- definition of forecasting,
- costs of forecasting,
- demand forecasting in logistics practice of small and medium companies
- methods of forecasting in logistics
- parameters of forecasts quality evaluation
3) Optimization in logistics
- definition of optimization,
- conjunction of logistics and optimization
- optimization methods in logistics
- linear programming models

Recommended reading lists

(a) obligatory literature

A. Yalaoui, H. Chehade, F. Yalaoui, L. Amodeo, *Optimization of Logistics* (ISTE), Kindle Edition 2013.

G.J. Plenert, *Supply Chain Optimization through Segmentation and Analytics (Resource Management)*, CRC Press, 2014.

S.G. Powell, K.R. Bake, *Management Science: The Art of Modeling with Spreadsheets*, John Wiley and Sons, 2010.

G. Elliott, A. Timmermann, *Economic Forecasting*, Princeton University Press, Princeton, Oxford 2016

(b) Supplementary literature
Decision Making Process in the Management of Logistics Support System [in:] C. Mańkowski, L. Reszka (red.): Modelowanie procesów i systemów logistycznych, cz. XXII Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2021, p. 167-176.

L. Reszka, *Multicriteria optimization methods in logistics on the example of warehouse location*, "Journal of Positive Management", vol. 9, nr 3/2018, Toruń 2018.

L. Reszka, The Applicability of the Simos' *Method to Determination of Weights In Optimal Multicriteria Decision Making In Logistics* [in:] M. Chaberek, L. Reszka (red.): *Modelling of Logistics Processes and Systems*, part XVII Research Journal of the University of Gdańsk Transport Economics and Logistics vol. 66. Gdańsk University Press, Gdańsk 2017, ISSN: 2544-3224.

L. Reszka, *Econometric Forecasting in Logistics Support System for Small Enterprise* [W:] N. Fabbes-Coste, M. Koulikoff-Souviron (red.): *Ninth ELA Doctorate Workshop 2004*. European Logistics Association 2004.

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 * SS1- undergraduate studies   * SS2 - graduate studies   * SDang - doctoral studies
** MSG - International Economic Relations

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