Course title	Optimization of logistics	ECTS code	14.3.EE.FL.3139
		ECTS credits	5
		max. students	25

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

Teaching staff	Leszek Reszka, Associate Professor

Number of hours

Lectures	Classes	Tutorials	Laboratory	Seminars	Language classes
0	0	0	30	0	0

Forma aktywności		Year&Type of studies*	3 SS1, 2 SS2, 1 SS2,
Hours with the participation of the academic teacher (including office hours, exams, others):		Semester:	6, 4, 2,
Hours without the participation of the academic teacher (student's self-study, homeworks):		Type of course:	optional
Total number of hours:	0	Language of instruction:	English

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

Prerequisites (required courses and introductory requirements)

Required courses	Microeconomics, macroeconomics.
Introductory requirements	Basic economic knowledge.

Assessment method, forms and criteria

Assessment method	Exam
Assessment criteria	Student’s working during the classes is recorded by the teacher, which is the base of the final grade.

Course objectives

The aim of the subject is to provide the knowledge and practical skills in optimization of logistics
Moreover, students will expand their vocabulary in English terminology in the field of logistics and optimization
By preparing project, they will develop social competence of teamwork.

Learning outcomes

Knowledge	E1_W01	The student knows the idea of the logistic processes and logistic systems in organizations.
	E1_W06	The student knows methods of optimization.

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
E1_W01			X				X	X			
E1_W06			X				X	X			

Skills	E1_U04	The student applies the methods of optimization of logistics for organizations
	E1_U04	The student makes a project for the organization in the area of logistics with the use of methods of optimization

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
E1_U04			X				X	X			

Attitudes	E1_K02	The student develops the social competence of team work

Verification of learning outcomes - Attitudes

Outcomes	written exam	oral exam	test	essay/paper /portfolio	tasks/ homeworks	individual presentation	group presentation	classroom activities	classroom discussion	individual project	group project
E1_K02							X				

Course contents

1) The fundamentals of logistics
definition of logistics,
goals of logistics,
logistic support system's components,
2) Optimization of logistics
definition of optimization,
conjunction of logistics and optimization
optimization methods in logistics
linear programming models

Recommended reading lists

(a)
1) B. S. Blanchard: Logistics Engineering and Management. Prentice Hall, New Jersey 1998
2) A. Yalaoui, Hi. Chehade, F. Yalaoui, L. Amodeo: Optimization of Logistics (ISTE), Kindle Edition 2013
3) G. D. Eppen, F. J.Gould, C. P.Schmidt, J. H. Moore, L. R. Weatherford: Introductory Management Science Decision Modelling with Spreadsheets. Prentice Hall, New Jersey 1998.

(b)
1) R. H. Ballou: Basic Business Logistics. Prentice Hall, New York 1987
2) G. J. Plenert: Supply Chain Optimization through Segmentation and Analytics (Resource Management), CRC Press, 2014
3) S. G. Powell, K. R. Bake: Management Science: The Art of Modeling with Spreadsheets, John Wiley and Sons, 2010
4) D. Simchi-Levi, P. Kaminsky, E. Simchi-Levi: Designing and managing the supply chain. Irwin McGraw - Hill, International Editions 2000

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