

**Subject card**

<b>Subject name and code</b>	Logistic Systems, PG_00199900						
<b>Field of study</b>	Economics						
<b>Date of commencement of studies</b>	October 2026	<b>Academic year of realisation of subject</b>			2028/2029		
<b>Education level</b>	Bachelor's studies	<b>Subject group</b>			Obligatory subject group in the field of study Optional subject group Subject group related to scientific research in the field of study		
<b>Mode of study</b>	part-time studies	<b>Mode of delivery</b>			at the university		
<b>Year of study</b>	3	<b>Language of instruction</b>			Polish		
<b>Semester of study</b>	5	<b>ECTS credits</b>			4.0		
<b>Learning profile</b>	academic	<b>Assessment form</b>			exam		
<b>Conducting unit</b>	Department of Logistics -> Faculty of Economics -> Rector						
<b>Name and surname of lecturer (lecturers)</b>	<b>Subject supervisor</b>		dr hab. Cezary Mańkowski				
	<b>Teachers</b>						
<b>Lesson types</b>	<b>Lesson type</b>	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	<b>Number of study hours</b>	10.0	10.0	0.0	7.0	0.0	27
	E-learning hours included: 0.0						
<b>Learning activity and number of study hours</b>	<b>Learning activity</b>	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	<b>Number of study hours</b>	27		0.0		73.0	100
<b>Subject objectives</b>	<p>1. Providing students with the concept of logistics systems</p> <p>2. Presentation of the classification of logistics systems, discussion of the structures of logistics systems</p> <p>3. Students acquire skills in the field of logistics systems design</p> <p>4. Strengthening students' social competences through project work</p>						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[EKONL3_K03] participates in the preparation of economic and social projects, being able to reconcile legal, economic, ecological, political and social requirements	The student participates in the preparation of logistics projects	[SK4] test/exam - oral or written
	[EKONL3_U02] is able to use the knowledge of theory and data to analyse concrete economic and social processes and phenomena and to analyse these phenomena using methods developed in economics, finance and management sciences	The student can use the acquired logistics knowledge and obtain data to analyze specific logistics systems and analyze them using methods created in economics, finance and management sciences applied for the needs of logistics	[SU4] test/exam - oral or written
	[EKONL3_W03] knows the relations between economic agents and social organisations operating in the national, international and intercultural arenas	The student has advanced knowledge of the relationships between economic entities and public institutions operating in the field of domestic and international logistics	[SW4] test/exam - oral or written
Subject contents	<p><b>1. The essence of logistics systems</b> Concept, features and types of systems, classification criteria of logistics systems, structures of logistics systems</p> <p><b>2. Components of logistics systems</b> Events. Processes. Resources. Relations. Parameters. Elements of the market environment of logistics systems</p> <p><b>3. Methods and tools for designing logistics systems</b> Ontologies, architectures, standards, IT tools (Design Thinking, Sankey Scheme, Aris)</p> <p>Any doubts regarding the issues discussed during classes can be discussed during consultations.</p>		
Prerequisites and co-requisites	Basic economic knowledge		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Test	51.0%	100.0%
Recommended reading	Basic literature	<p>1. Chaberek M.: Makro- i mikroekonomiczne aspekty wsparcia logistycznego. Wyd. Uniw. Gdanskiego, Gdansk 2002</p> <p>2. Mańkowski C.: Modelowanie procesów logistycznych. Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2020 (<a href="#">Here</a>)</p> <p>3. Blaik P.: Logistyka. PWE, Warszawa 2010</p>	
	Supplementary literature	<p>1. Mańkowski C.: Synergia w logistyce. Wyd. Uniw. Gdańskiego, Gdańsk 2010</p> <p>2. Twaróg J.: Koszty logistyki przedsiębiorstw. ILiM, Poznań 2003</p> <p>3. Twaróg J.: Mierniki i wskaźniki logistyczne. ILiM, Poznań 2005</p> <p>4. Beier F., Rutkowski K.: Logistyka. Wydaw. SGH, Warszawa 2005</p> <p>5. Jacyna M., Lewczuk K., Projektowanie systemów logistycznych, PWN, Warszawa 2016</p> <p>6. Czasopisma: Logistyka; Logistyka a Jakość; Eurologistics; Gospodarka Materiałowa i Logistyka; Spedycja, Transport, Logistyka</p> <p>7. Portals: <a href="http://www.ptl.net.pl">www.ptl.net.pl</a>, <a href="http://www.logistyka.net.pl">www.logistyka.net.pl</a>, <a href="http://ariscmmunity.com">ariscmmunity.com</a></p>	
	eResources addresses		

Example issues/ example questions/ tasks being completed	Types of logistics systems  Components of logistics systems  Elements of the market environment of logistics systems  Ontologies, architectures, standards, tools for designing logistics systems
Work placement	Not applicable

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