University of Gdańsk

Subject card

Subject name and code	IT Tools in Logistics and Mobility, PG_00200438		
Field of study	Logistics and Mobility		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
Education level	Master's 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	1	Language of instruction	English English
Semester of study	2	ECTS credits	2.0
Learning profile	academic	Assessment form	exam
Conducting unit			
Name and surname of lecturer (lecturers)	Subject supervisor	dr Dorota Książkiewicz	
	Teachers	dr Dorota Książkiewicz	

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	0.0	0.0	0.0	15

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	15	0.0	35.0	50

Subject objectives

The aim of the course is to acquaint students with the classification of IT tools used by enterprises in the field of transportation and logistics. To familiarize students with information flow within enterprises and supply chains. To prepare students for using advanced solutions in logistics information systems.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[LMMU2_W08] has a knowledge of main and logistics 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	The student is equipped with knowledge on digital tools and their application in transport and logistics processes	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report
[LMMU2_K04] is ready to think and act in an entrepreneurial manner; adapts to new situations and conditions; undertakes challenges of creative thinking; acquires resilience to failures; can assess risks and threats and find ways of counteracting their effects	The student is able to propose solutions to problems related to specific situations in logistics	[SK1] oral statement/conversation/ discussion [SK2] presentation/project/paper/ report

<table>
<tr><td>Subject contents</td><td>1. Logistics Based on Data - data management principles

2. Types and Functions of Information Systems Used by Logistics Companies (ERP, SCM. TMS, WMS)

3. Transportation Management Systems (TMS)- managing transportation fleets, tracking vehicles, and optimizing routes

4. Real-Time Tracking and Tracing Technologies: GPS, RFID, and other technologies for real-time monitoring of shipments and assets.

5. Information Tools Supporting Inventory Management (WMS)

6. Automatic Warehouse Operations

7.. Cloud Computing in Logistics: Applications, advantages, and security considerations

8. Internet of Things (IoT) in Transportation and Logistics

9. Artificial Intelligence (AI) and Digital Logistics Platforms

10. Robotic and Automated Tools

11. Mobile Applications in Logistics: Role of mobile apps for field operations, driver management, and customer interaction in logistics.

12. Digital Data Safety and Security in Logistic

Any doubts regarding the issues discussed will be dispelled during the consultation.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>Basic knowledge of the course of transport and logistics operations. Knowledge of supply chain management principles in the global economy.</td></tr>
<tr><td>Assessment methods and criteria</td><td><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>presentation</td><td>51.0%</td><td>80.0%</td></tr>
<tr><td>in-class discussion</td><td>51.0%</td><td>20.0%</td></tr>
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<tr><td>Recommended reading</td><td><table>
<tr><td>Basic literature</td><td>ICT Solutions and Digitalization in Ports and Shipping, edited by M. Fiorini and N. Gupta, IET, 2021

Digital Transformation in Maritime Transportation and Logistics, edited by M. Fiorini and D. Książkiewicz, IET 2026

Marr Bernard: Data Strategy: How to Profit from a World of Big Data, Analytics and Artificial Intelligence, Kogan Page Ltd. 2021.

Marr Bernard, Tech Trends in Practice: The 25 Technologies that are Driving the 4th Industrial Revolution, John Wiley & Sons 2020.

Batuhan Kocaoglu, Logistics Information Systems: Digital Transformation and Supply Chain Applications in the 4.0 Era (Springer Texts in Business and Economics) 2024</td></tr>
<tr><td>Supplementary literature</td><td>Maar Bernard, The Intelligence Revolution:- Transforming Your Business With AI, Kogan Page 2020</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
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Example issues/ example questions/ tasks being completed	What are the main types of IT systems used in logistics processes? What functions do various types of IT systems and tools have in supply chains?
Work placement	Not applicable

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