University of Gdańsk

Subject card

Subject name and code	Logistics and Mobility Modelling, PG_00200430		
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
Semester of study	1	ECTS credits	3.0
Learning profile	academic	Assessment form	credit
Conducting unit	Department of Logistics -> Faculty of Economics -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Agnieszka Szmelter-Jarosz	
	Teachers	dr Agnieszka Szmelter-Jarosz	

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	30.0	0.0	30.0	0.0	60
	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	60	0.0	15.0	75

Subject objectives	The objective of the course is to provide students with knowledge, skills and social competence in the area of logistics and mobility modelling.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[LMMU2_W06] has an in-depth knowledge of statistical and econometric methods and tools for description and macro- and microeconomic modelling of logistics and mobility processes and systems	Student has got knowledge on the methods and tools designed to model the structure of logistics and mobility processes (events, activities, resources, relations, systems, parameters)	[SW2] presentation/project/paper/ report
[LMMU2_U04] can forecast and model complex economic and social processes, as well as logistics and mobility processes and systems using quantitative and qualitative methods and tools developed by economic sciences (including statistics and econometrics)	Student can model complex logistics and mobility processes using quantitative and qualitative methods	[SU2] presentation/project/paper/ report
[LMMU2_K05] correctly identifies, diagnoses and solves dilemmas and alternative solutions related to the profession	Student correctly identifies, diagnoses and solves dilemmas and alternative solutions related to the profession, in relation to logistics and mobility	[SK2] presentation/project/paper/ report
[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	Student has got knowledge on the structure of logistics and mobility processes (events, activities, resources, relations, systems, parameters)	[SW2] presentation/project/paper/ report

Subject contents

1. Structure of logistics and mobility processes
Main ontologies, processualism, eventism, reism, relationism, systemism, architectures of business processes (ARIS, CIM OSA, Zachman framework), logistics and mobility processes, structure, elements, quantitative and qualitative parameters
2.Development of EPC model of logistics or mobility process
Methods and tools of logistics or mobility process modelling. Constructing a model of a selected logistics or mobility process according to the EPC standard of modelling
3.Analysis of logistics or mobility process model
Heuristics, benchmarking, simulation, time/cost/quality analysis
4.Improvement of logistics or mobility process
Vision, redesigning, reengineering
5.Presentation and discussion on the model of improved logistics or mobility process
Presentation, estimation, discussion

In case of doubts, the Student is aware of the possibility of using consultations.

Prerequisites and co-requisites

General knowledge on logistics or mobility

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Project	51.0%	100.0%

Recommended reading

Basic literature	1) Mańkowski C.: Ontological Foundations for Business Logistic Process Modeling. "Railway Transport and Logistics" 2007, no. 2, p. 30-38. Available at the teacher portal 2) Mańkowski C.: Architectures of logistics processes and systems, Transport Economics and Logistics, Gdańsk University Press, vol. 68, 2017, p. 25-38. Available at the teacher portal 3) Mańkowski C., Charłampowicz J.: Managing maritime container ports sustainability: a reference model. "Sustainability", MDPI, vol. 13, nr 18, 2021, p. 1-15. Available HERE
Supplementary literature	Http://www.ariscommunity.com Https://scor.ascm.org/ Http://www.softwareag.comHttp://www.idef.com Http://www.wonderware.com
eResources addresses	

Example issues/ example questions/ tasks being completed	What is the name of the logistics or mobility process selected to model? What event/s activate/s activity/es of the selected process? What human, material, info or money resources are needed to perform the activity/es, and where they are output from? What human, material, info or money resources are output of the activity/es performance, and where they are input to? What event/s are activated by the activity/es performance? What are parameters of events, activities, resources, relations of the modeled logistics or mobility process? Jak nazywa się proces logistyki lub mobilności wybrany do modelowania? Jakie zdarzenie/a aktywują czynności wybranego procesu? Jakie zasoby ludzkie, materialne, informacyjne lub pieniężne są potrzebne do wykonania działań i skąd pochodzą? Jakie zasoby ludzkie, materialne, informacyjne lub pieniężne stanowią wynik działania, i gdzie są one wprowadzane? Jakie zdarzenia są aktywowane przez wykonane działania? Jakie są parametry wydarzeń, działań, zasobów modelowanego procesu logistyki lub mobilności?
Work placement	Not applicable

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