



1. Subject name	Planning of extra-logistics networks				
2. Subject name in Hungarian	Extralogisztikai rendszerek tervezése				
3. Code	BMEKOALM337	4. Evaluation type	mid-term grade	5. Credits	4
6. Weekly contact hours	2 (9) Lecture	1 (5) Practice	0 (0) Lab		
7. Curriculum	Logistics Engineering MSc (L)	8. Role	Mandatory (mc) at Logistics Engineering MSc (L)		
9. Working hours for fulfilling the requirements of the subject					120
Contact hours	42	Preparation for seminars	0	Homework	44
Reading written materials	0	Midterm preparation	34	Exam preparation	0
10. Department	Department of Material Handling and Logistics Systems				
11. Responsible lecturer	Dr. Kovács Gábor				
12. Lecturers	Dr. Kovács Gábor, Bakos András				
13. Prerequisites					
14. Description of lectures					
<p>Determination of the supply chain networks, strategic and operational problems in the freight transport systems. The driving and the delivery performance. Specific problems in the planning of the supply chain networks. Mathematical modelling of the supply chain network topology. Evaluation techniques of the static structure of the supply chain network. Evaluation techniques of the operational properties and performance parameters of the supply chain networks. Manifestation of the logistics cost. Introduction to the transportation problem. The approximation methods and the basic solutions. Optimal solutions of the transportation problem. Introduction to facility location problem. Classification of the mathematical solutions and methodologies. Mathematical models of the one-stage (zone) facility location problems. Mathematical models of the multi-stage (zone) facility location problems. Estimation techniques of the mileage, and its applications in the facility location problems. The operation of the multi-stage inventory networks. Application of the distribution resource planning (DRP) in the supply chain networks planning.</p>					
15. Description of practices					
Application of the modeling, network planning tool described in the lectures through practical examples, and preparation of the solution of the homework.					
16. Description of laboratory practices					
17. Learning outcomes					
<p>A. Knowledge</p> <ul style="list-style-type: none"> • Knowledge of network planning and network assessment basics. • Knowledge of the assignment / distribution problem and how to solve it. • Knowledge of centre searching problems and solutions. • Knowledge of network optimization at the strategic level. <p>B. Skills</p> <ul style="list-style-type: none"> • Ability to evaluate logistics networks. • Able to strategically optimize logistics networks. <p>C. Attitudes</p> <ul style="list-style-type: none"> • Strive to maximize their abilities to make their studies at the highest possible level, with a profound and independent knowledge, accurate and error-free, in compliance with the rules of the applicable tools, in collaboration with the instructors. <p>D. Autonomy and Responsibility</p> <ul style="list-style-type: none"> • Take responsibility for the quality of the work and the ethical standards that set an example for the classmates, using the knowledge acquired during the course. 					
18. Requirements, way to determine a grade (obtain a signature)					
1 homework (weights: 25% for the part-performance check, 25% for the final submission), 2 tests (weights: 25-25%)					

19. Opportunity for repeat/retake and delayed completion

The part-performance check and the final submission can both be resubmitted once. Both tests can be retaken once.

20. Learning materials

Students can download the subject notes in pdf format via Moodle.

Effective date	10 October 2019	This Subject Datasheet is valid for	2024/2025 semester II
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