



1. Subject name	Innovative methods for the inventory planning				
2. Subject name in Hungarian	A készlettervezés korszerű módszerei				
3. Code	BMEKOALD008	4. Evaluation type	exam grade	5. Credits	3
6. Weekly contact hours	3 (0) Lecture	0 (0) Practice	0 (0) Lab		
7. Curriculum	PhD Programme	8. Role	Specific course		
9. Working hours for fulfilling the requirements of the subject					90
Contact hours	42	Preparation for seminars	7	Homework	30
Reading written materials	11	Midterm preparation	0	Exam preparation	0
10. Department	Department of Material Handling and Logistics Systems				
11. Responsible lecturer	Dr. Bóna Krisztián				
12. Lecturers	Dr. Bóna Krisztián				
13. Prerequisites	recommended: BMEKOALD001 - Operational Research in Logistics				
14. Description of lectures					
<p>Innovative techniques and approaches in the inventory planning. Purchasing order scheduling problems, and special issues of the inventory theory. Multi-criteria optimization problems in inventory processes. Inventory control. Simulation modelling of inventory processes, and its applications in the inventory control. Application of artificial intelligence in the inventory planning. The specialities of the inventory networks, inventory routing problems. Inventory planning in case of dependent demand, development directions of MRP systems. Inventory planning problems in case of reverse logistics networks. Harmonizing of corporate planning tasks, the role of the S&OP process.</p>					
15. Description of practices					
16. Description of laboratory practices					
17. Learning outcomes					
<p>A. Knowledge</p> <ul style="list-style-type: none"> • Knowledge of the tasks and problems of the inventory planning. • Knowledge of the mathematical modelling techniques. • Knowledge of the related optimum searching and statistical data mining tasks and solutions. <p>B. Skills</p> <ul style="list-style-type: none"> • Able to study the inventory planning tasks, taking into account the scientific requirements. • Able to carry out research and development tasks related to the inventory planning. <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)					
The grade of the PhD student is based on the research activity, and the quality of the developed model, and the scientific white paper.					
19. Opportunity for repeat/retake and delayed completion					
Announced at the beginning of the semester					
20. Learning materials					
<p>Waters, D.: Inventory Control and Management, John Wiley & Sons, 2007 Axsäter, S.: Inventory Control, Springer, 2006</p>					

Bartmann, D., Beckmann, M. J.: Inventory control: models and methods, Springer, 1992
Love, S. F.: Inventory control, McGraw-Hill, 1979

Effective date	27 November 2019	This Subject Datasheet is valid for	Inactive courses
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