



<b>1. Subject name</b>	<b>Innovative methods for the demand planning</b>				
<b>2. Subject name in Hungarian</b>	A kereslettervezés korszerű módszerei				
<b>3. Code</b>	<b>BMEKOALD003</b>	<b>4. Evaluation type</b>	<b>exam grade</b>	<b>5. Credits</b>	<b>3</b>
<b>6. Weekly contact hours</b>	<b>3 (0) Lecture</b>	<b>0 (0) Practice</b>	<b>0 (0) Lab</b>		
<b>7. Curriculum</b>	<b>PhD Programme</b>	<b>8. Role</b>	<b>Specific course</b>		
<b>9. Working hours for fulfilling the requirements of the subject</b>					<b>90</b>
<b>Contact hours</b>	42	<b>Preparation for seminars</b>	7	<b>Homework</b>	30
<b>Reading written materials</b>	11	<b>Midterm preparation</b>	0	<b>Exam preparation</b>	0
<b>10. Department</b>	<b>Department of Material Handling and Logistics Systems</b>				
<b>11. Responsible lecturer</b>	Dr. Bóna Krisztián				
<b>12. Lecturers</b>	Dr. Bóna Krisztián				
<b>13. Prerequisites</b>	<b>recommended: BMEKOALD001 - Operational Research in Logistics</b>				
<b>14. Description of lectures</b>					
<p>Innovative techniques and approaches in the demand planning. Segmentation of the demand planning process. Data mining, clearing and filtering. Aggregation methods, the role of the baseline. New approach in the model identification. Model selection techniques. Multi-criteria optimization techniques in the parameterizing of the forecasting models. Disaggregation methods, fine tuning of the forecasting models. Measurement problems in the demand planning, the forecast error and accuracy. Application of artificial intelligence in the demand planning. Harmonizing of corporate planning tasks, the role of the S&amp;OP process.</p>					
<b>15. Description of practices</b>					
<b>16. Description of laboratory practices</b>					
<b>17. Learning outcomes</b>					
<p>A. Knowledge</p> <ul style="list-style-type: none"> <li>• Knowledge of the tasks and problems of the demand planning.</li> <li>• Knowledge of the mathematical modelling techniques.</li> <li>• Knowledge of the related optimum searching and statistical data mining tasks and solutions.</li> </ul> <p>B. Skills</p> <ul style="list-style-type: none"> <li>• Able to study the demand planning tasks, taking into account the scientific requirements.</li> <li>• Able to carry out research and development tasks related to the demand planning.</li> </ul> <p>C. Attitudes</p> <ul style="list-style-type: none"> <li>• 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.</li> </ul> <p>D. Autonomy and Responsibility</p> <ul style="list-style-type: none"> <li>• 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</li> </ul>					
<b>18. Requirements, way to determine a grade (obtain a signature)</b>					
The grade of the PhD student is based on the research activity, and the quality of the developed model, and the scientific white paper.					
<b>19. Opportunity for repeat/retake and delayed completion</b>					
Announced at the beginning of the semester					
<b>20. Learning materials</b>					
<p>C. Chatfield: The Analysis of Time Series, Chapman &amp; Hall/CRC, 2004          Armstrong, J. Scott (ed.): Principles of forecasting: a handbook for researchers and practitioners (in English). Norwell,</p>					

Massachusetts: Kluwer Academic Publishers. ISBN 0-7923-7930-6., 2001

Makridakis, Spyros; Wheelwright, Steven; Hyndman, Rob J.: Forecasting: methods and applications (in English). New York:

John Wiley & Sons. ISBN 0-471-53233-9., 1998

<http://www.neural-forecasting.com/>

**Effective date**

27 November 2019

**This Subject Datasheet is valid for**

Inactive courses