Course title: Simulation of Material Flow and Logistics	**Neptun code:** **GEALT422-a**
Course coordinator: Dr. Péter Tamás, PhD, dr. habil., professor	
type of lesson and number of lessons: **lecture (2)**	
method of evaluation: colloquium	
curriculum location of the subject: (autumn/spring semester): autumn and spring	
pre-study conditions *(if any)*: -	
The task and purpose of the subject:	
During the course, students will get acquainted with the simulation testing methods and possibilities of material flow systems. Using the knowledge gained, students will be able to study the simulation of material flow systems.	
Course description:	
Grouping and characteristics of material flow systems. Mathematical description of the operation of material flow systems. Concept and objectives of simulation modeling. Types of simulation models, steps of implementing simulation testing. Modeling of material flow systems. Description of process development methods for material flow systems. Case studies.	
Required literature:	
1. Kuliwiec, R. A.: Materials handling handbook, John Wiley and sons, New York, 1985. 2. Pedro García Márquez, F. (ed.), Segovia Ramirez, I. (ed.), Bányai, T. (ed.), Tamás, P. (ed.): Lean Manufacturing and Six Sigma - Behind the Mask, London, United Kingdom /England : InTech Open Access Publisher (2020), ISBN: 9781789239072 3. Telek, P., Bányai, T.: Complex design of integrated material flow systems Advanced Logistic Systems: Theory and Practice 7:(1) pp. 105-110. (2013)	
Recommended literature:	
1. Illés, B., Glistau, E., Machado, N. I. C.: Logistik und Qualitätsmanagement, ISBN 978 963 87738 1 4, Miskolc, 2007. 2. Tamás, P., Illés, B., Tollár, S.: Simulation of a flexible manufacturing system. Adv. Logist. Syst. Theory Pract. 2012, 6, 25–33. 3. Tamás, P., Illés, B., Dobos, P.: Waste reduction possibilities for manufacturing systems in the industry 4.0. In Proceedings of the IOP Conference Series: Materials Science and Engineering, Kozani, Greece, 23–25 September 2016; Volume 161, pp. 1–8.	