Course title: Parallel and Distributed Systems	**Neptun code:** **GEIAL407-a**
Course coordinator: Dr. Gábor Kecskeméti, PhD, dr. habil., senior research fellow	
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:	
The objective of this course is to provide a comprehensive overview of the algorithms and techniques used in parallel and distributed systems.	
Course description:	
Parallel programming models, sorting networks,networking case studies (e.g., unidirectional ring, peer-to-peer), algorithms on ring and grid processor, load balancing, schedulers and their applications (e.g., workflow scheduling). Locks, atomicity, synchronization, concurrent objects , snapshots, transactional memory, consensus, unreliable objects.	
Required literature:	
1. Casanova, H., Legrand, A., & Robert, Y. (2008). Parallel algorithms. Chapman and Hall/CRC. 2. Raynal, M. (2012). Concurrent programming: algorithms, principles, and foundations. Springer Science & Business Media.	
Recommended literature:	
1. Wu, J. (2017). Distributed system design. CRC press. 2. Coulouris, G. F., Dollimore, J., & Kindberg, T. (2005). Distributed systems: concepts and design. pearson education.	