

Name: Network Technologies I		NEPTUN-code: NIXHT1CBNE	Number of periods/week: full-time: 2 ea + 0 tgy + 1 lab
Credit: 4 Requirement: exam		Prerequisite: NIXSH0EBNE Computer Networks	
Responsible: Miklós KOZLOVSZKY, Ph.D.	Position: associate professor	Faculty and Institute name: John von Neumann Faculty of Informatics Institute of Biomatics	
Way of assessment: - oral exam			
Competences			
Course description:			
The course introduces the modern local area network (LAN) and wide area network (WAN) technologies, the different transmission media (copper cable, optical and wireless), signalling systems and decoding solutions, signal-to-noise ratio of analogue and digital transmissions, as well as the physical and logical topology of networks. The course materials also contain the internal structure and services of communication systems according to the OSI model, the aims and operation of the participating protocols and interfaces, their theoretical and typical practical implementations. The student can become familiar with the principles and practice of the basic switching and routing concepts together with standards based on laboratory exercises (configuration of the different routing mechanisms, VLANs, VTP, DTP) and the GNS3 emulation software.			
Literature			
A. S. Tanenbaum és D. J. Wetherall: Computer Networks, 3rd edition, Panem, Budapest, 2013 (in Hungarian) A. S. Tanenbaum and D. J. Wetherall: Computer Networks, 5th edition, Prentice Hall, 2011 (electronic notes) The Cisco Networking Academy online curriculum (in English)			