

1.	Field of study	Computer Science
2.	Academic year of entry	2017/2018 (summer term), 2018/2019 (summer term)
3.	Level of qualifications/degree	second-cycle studies
4.	Degree profile	general academic
5.	Mode of study	full-time

Module: Development and configuration of computer networks

Module code: 08-IN-S2-PIKSK

1. Number of the ECTS credits: 4

2. Learning outcomes of the module			
code	description	learning outcomes of the programme	level of competence (scale 1-5)
PIKSK -K_12	Presents his own solutions and configurations to the group.	K_2_A_I_K02 K_2_A_I_K03	1 1
PIKSK -K_13	Estimates costs of computer network design.	K_2_A_I_K05 K_2_A_I_K06	1 1
PIKSK -U_10	Uses basic diagnostic mechanisms for network testing.	K_2_A_I_U12 K_2_A_I_U19	3 1
PIKSK -U_11	Uses network simulator to network designing and testing.	K_2_A_I_U12 K_2_A_I_U15 K_2_A_I_U19 K_2_A_I_U21	2 1 1 1
PIKSK -U_6	Can join hosts in a local network using various transmission media using point-point topologies and joining into infrastructure. Tests advanced media and links.	K_2_A_I_U01 K_2_A_I_U08 K_2_A_I_U10 K_2_A_I_U12	1 1 1 1
PIKSK -U_7	Can configure a switch as an access layer device.	K_2_A_I_U08 K_2_A_I_U12	1 3
PIKSK -U_8	Can configure router as a core layer device. Constructs a network comprising sub-nets of L3 layer. Designs vertical and horizontal cablings.	K_2_A_I_U08	1

		K_2_A_I_U09	1
		K_2_A_I_U10	1
		K_2_A_I_U12	1
		K_2_A_I_U15	1
PiKSK -U_9	Configures VLAN networks and routing between such networks.	K_2_A_I_U03	1
		K_2_A_I_U12	2
		K_2_A_I_U19	1
PiKSK -W_1	Understands the need to use layered network model OSI-7 for description of phenomena occurring in computer networks. Understands divisions within TCP/IP stack of phenomena occurring in the Internet.	K_2_A_I_W04	1
		K_2_A_I_W05	1
		K_2_A_I_W11	3
		K_2_A_I_W13	1
		K_2_A_I_W19	1
PiKSK -W_2	Characterizes network devices, such as: network card, switch, router, host. Can describe issues connected with switching frames and routing packets.	K_2_A_I_W11	1
		K_2_A_I_W14	1
		K_2_A_I_W20	1
PiKSK _W_3	Characterizes limitations of transmission media used in local network and ways of addressing. Understands threats resulting from use of excessive broadcast domains of L2 layer. In wireless networks is able to explain phenomena connected with overlapping of transmission channels.	K_2_A_I_W11	3
		K_2_A_I_W14	1
		K_2_A_I_W20	1
PiKSK -W_4	Understands the need to use 3 layer model to design a local network.	K_2_A_I_W11	1
		K_2_A_I_W17	1
PiKSK -W_5	Characterizes threats connected with discontinuous network addressing and understands the need of dividing big networks of 3L layer into smaller ones.	K_2_A_I_W11	1
		K_2_A_I_W13	1

3. Module description	
Description	Aim of the module is familiarizing with issues connected with designing, implementation and diagnostics of a local computer network. The module deals with issues connected with process of information transfer in three lowest layers of reference model OSI-7.
Prerequisites	

4. Assessment of the learning outcomes of the module			
code	type	description	learning outcomes of the module
PiKSK _w_1	Module credit	Questions from lecture subject matter.	PiKSK -W_1, PiKSK -W_2, PiKSK -W_4, PiKSK -W_5, PiKSK _W_3

PiKSK _w_2	Short tests	Checking the level of understanding of issues concerning computer network development and routing.	PiKSK -W_1, PiKSK -W_2, PiKSK -W_4, PiKSK -W_5
PiKSK _w_3	Conversation during tasks crediting	Checks the skill of generalizing knowledge acquired during tasks solving.	PiKSK -K_12, PiKSK -K_13, PiKSK -U_10, PiKSK -U_11, PiKSK -U_6, PiKSK -U_7, PiKSK -U_8, PiKSK -U_9

5. Forms of teaching

code	form of teaching			required hours of student's own work		assessment of the learning outcomes of the module
	type	description (including teaching methods)	number of hours	description	number of hours	
PiKSK _fs_1	lecture	Content available in the form of multimedia transfer.	15	Preparing for credit.	15	PiKSK _w_1
PiKSK _fs_2	laboratory classes	Exercises referring to networks joining and LAN networks configuring.	30	Designing own networks with use of Packet Tracer.	45	PiKSK _w_2, PiKSK _w_3