

Subject card

Subject name and code	Computer Networks, PG_00198468						
Field of study	Informatics						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2027/2028		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study		
Mode of study	part-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		Polish		
Semester of study	3		ECTS credits		5.0		
Learning profile	academic		Assessment form		credit		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr Mikołaj Czechlewski				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	20.0	0.0	20.0	0.0	0.0	40
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	40		0.0		85.0	125
Subject objectives	Presentation of the principles of computer networks, the devices and communication protocols used in them communication devices and protocols and the services they offer. Preparing students to create topologies, configuration and diagnostics of networks built with the use of Cisco routers and switches preparation for the Cisco Certified Network Associate (CCNA) certification in the scope of semester I Introduction to Networks along with obtaining a course completion certificate.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[INFOL3_W08] knows and understands advanced concepts in the field of network technologies, including communication protocols, security and construction of network applications		Lists and defines the protocols used in LANs Characterises routing protocols RIP, OSPF, EIGRP		[SW4] test/exam - oral or written [SW5] implementation of a problem task		
	[INFOL3_U02] is able to use his/her knowledge of higher mathematics to model and solve complex problems		Effectively uses contact with the trainer in the design of network infrastructures		[SU4] test/exam - oral or written [SU8] observation of student's independent or team work		
	[INFOL3_U06] is able to select and apply appropriate IT methods and tools to solve complex problems, is able to use acquired knowledge by appropriately selecting sources and information derived from them, and perform evaluation, critical analysis, and synthesis of this information		Effectively uses contact with the trainer in the design of network infrastructures		[SU4] test/exam - oral or written [SU8] observation of student's independent or team work		
Subject contents	Introduction to TCP/IP networks Network protocols and communication Network devices - hubs, bridges, switches, routers Access to the network - MAC addresses, ARP protocol, STPs Ethernet technology, types of cabling MAC addressing, ARP protocol, STP Ethernet technology, types of cabling Network layer - static routing, dynamic routing - RIP, OSPF, EIGRP VLAN technology Transport layer - TCP and UDP protocols IP addressing ver. 4 and 6 Subdivision of IP networks into subnetworks Application layer, servers WWW, DNS, MAIL, DHCP, NAT Network security.						

Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	IPv4 test	51.0%	40.0%
	class work	51.0%	30.0%
	cisco final exam	51.0%	30.0%
Recommended reading	Basic literature	CCNA I semester Introduction to Networks	
	Supplementary literature	Cisco Networking Academy, Routing and Switching Essentials Companion Guide, Cisco Press, Indianapolis 2022	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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