

Subject card

Subject name and code	Computer Networks, PG_00198004						
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	full-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 Adam Kostulak				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	30.0	0.0	0.0	60
	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	60		0.0		65.0	125
Subject objectives	An introduction to the principles of computer networks, the communication devices and protocols used in them and the services they offer services they offer. Preparing students for creating topologies, configuring and diagnosing networks built with the use of Cisco routers and Cisco routers and switches preparation for the Cisco Certified Network Associate (CCNA) certification in the scope of semester I Routing & Switching along with obtaining a certificate of completion of the course.						
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		Has knowledge of operating systems, network technologies, including basic communication protocols		[SW4] test/exam - oral or written [SW3] text preparation/written work [SW5] implementation of a problem task		
	[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		Lists and characterises the components of local network security Lists and defines the protocols used in LANs Characterises the routing protocols RIP, OSPF, EIGRP		[SU3] text preparation/written work [SU4] test/exam - oral or written [SU5] implementation of a problem task		
Subject contents	TCP/IP networks Network protocols and communication Network devices - hubs, bridges, switches, routers Access to the network - 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 Application layer - WWW servers, DNS, MAIL, DHCP, NAT Network security						
Prerequisites and co-requisites							
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	test		51.0%		100.0%		

Recommended reading	Basic literature	Cisco multimedia content: CCNA semestr I Routing & Switching D. Comer, Computer Netwrks
	Supplementary literature	http://netacad.com - Cisco Network Academy
	eResources addresses	
Example issues/ example questions/ tasks being completed	.	
Work placement	Not applicable	

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