

Subject card

Subject name and code	Computer Network Administration, PG_00155058						
Field of study	Informatics and Econometrics						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2025/2026		
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 given the specialised web terminology, it is advisable to familiarize oneself with the Cisco platform's content in English		
Semester of study	4		ECTS credits		8.0		
Learning profile	academic		Assessment form		exam		
Conducting unit	Department of Business Informatics -> Faculty of Management -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Bartosz Marcinkowski				
	Teachers		dr Marek Markowski dr hab. Bartosz Marcinkowski				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	20.0	0.0	32.0	0.0	0.0	52
	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	52		30.0		120.0	202
Subject objectives	• preparing students to build topologies as well as configure and diagnose networks based on Cisco routers and switches • developing skills of selecting routing strategies, solving intermediate-level routing configuration problems, managing switches at the VLAN level, and implementing DHCP and ACL services • getting ready for the Cisco Certified Network Associate certification						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[IiEL3_W04] The student has advanced knowledge of mathematical, statistical, econometric and computer methods of obtaining, processing and analysing data depicting the functioning and development of the national economy and its elements, as well as the phenomena and processes occurring in their environment.	- discusses the architecture of the network (including devices and networking media) - discusses addressing schemes in computer networks - describes how a local area network works - describes how a wide area network works - explains the way given network protocols work and the datagrams they use - lists and describes given network services	[SW4] test/exam - oral or written
	[IiEL3_W07] The student has advanced knowledge of ethical norms applicable to business, good practices for its conduct and legal regulations for the protection of intellectual property. Has knowledge of the risks and responsibilities associated with the informatization of business processes, knows the principles of netiquette.	- lists and characterises the components of local network security - discusses the principles of network diagnostics	[SW4] test/exam - oral or written
	[IiEL3_K03] The student can work in, co-create and manage a team; adapts his/her behavior and conduct to his/her role in it; is ready to take responsibility for the team and bear the consequences; understands the necessity of regularity and consistency in action; is open to other team members and critical of himself.	- skilfully delegates roles within the team, - demonstrates responsibility for hardware entrusted to him/her	[SK8] observation of student's independent or team work
	[IiEL3_K02] The student can communicate with the public on computer science and econometrics topics in and outside the workplace, communicate his knowledge and share his skills through various media.	- assists team members with network diagnostics	[SK8] observation of student's independent or team work
	[IiEL3_K01] The student understands the need to constantly supplement and deepen acquired knowledge; is open to new ideas and teaching methods.	- shows creativity in solving configuration problems	[SK8] observation of student's independent or team work
	[IiEL3_U02] The student is able to acquire basic information about economic processes and phenomena by direct observation, planned experiment or database queries, and collect and process it using modern information technology tools.	- analyses individual devices' configuration and detects possible errors and issues - evaluates the correct operation of the network and plans its further development	[SU5] implementation of a problem task
	[IiEL3_U08] The student can configure and apply advanced modern information and communication technologies in the process of business management and business communication.	- builds physical connections between network and end devices - performs basic configuration of switches - performs basic configuration of routers - selects an optimal routing method and configures related routing protocols - implements network security that features password policy, logical network separation, port security, and ACLs - extends the addressing schemas of end devices by implementing DHCP, Syslog and NAT/PAT services	[SU5] implementation of a problem task

Subject contents	A. Topics of the lecture: • Basic networking concepts • Layered network models • MAC, IPv4 and IPv6 addressing • Networking media • Networking devices • Networking services • Static and dynamic routing, redistribution of routing entries • Specialised network technologies and protocols across switches and routers • Network monitoring • Configuration diagnostics B. Lab topics: • Basic commands on hosts • Handling network addresses • Cabling, patch panels • Introduction to IOS • Building networking topologies • Password policy • Static routing • Introduction to routing protocols • DHCP service • Port security • VLANs • Advanced routing protocols - EIGRP, OSPF • Configuring NAT/PAT service on networking devices • Access Control Lists • ROM-monitor mode		
Prerequisites and co-requisites	Bit-based operations, software classes, command line operation, general features of operating systems and input/output processes		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	egzam	51.0%	30.0%
	certification assessment - incremental grading	51.0%	20.0%
	practical assessment	51.0%	50.0%
Recommended reading	Basic literature	• Cisco Networking Academy (2020); Cisco Certified Networking Associate; CCNA v7; part 1 • Cisco Networking Academy (2020); Cisco Certified Networking Associate; CCNA v7; part 2 • Cisco Networking Academy (2020); Cisco Certified Networking Associate; CCNA v7; part 3	
	Supplementary literature	• Empson S. (2019); CCNA 200-301 Portable Command Guide. Fifth Edition • Winiarski J. (red); Sieci komputerowe w biznesie; Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2008	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

Document generated electronically. Does not require a seal or signature.