



Subject card

Subject name and code	NGN Systems and Architectures, PG_00048133						
Field of study	Electronics and Telecommunications						
Date of commencement of studies	October 2025	Academic year of realisation of subject			2027/2028		
Education level	first-cycle studies	Subject group			Optional subject group Subject group related to scientific research in the field of study		
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	3	Language of instruction			Polish		
Semester of study	6	ECTS credits			2.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Department Of Teleinformation Networks -> Faculty Of Electronics Telecommunications And Informatics -> Wydziały Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Sylwester Kaczmarek					
	Teachers	dr hab. inż. Sylwester Kaczmarek					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	15.0	15.0	0.0	30
	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	30	2.0	18.0	50		
Subject objectives	Getting skills of the new generation networks testing and designing chosen problems concerning these networks but in that taking the quality of classes services into consideration.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
Subject contents	<p>LAB: ATM technology as the transport for IP. ATM network configuring for the IP over ATM realization. Tools for observation and measurements in the IP network. Tools for the generation of the packet traffic. Testing the functionality of H.323 and SIP software terminals, as well as an IP PBX. Configuring H.323 Gatekeeper. Analysis of signalling message exchange scenarios for H.323 and SIP standards. Testing the quality of speech service in the IP and IP QoS (DiffServ) domain. Configuring and analysis edge and core router performance in the DiffServ domain.</p> <p>PROJECT: Calculation of resources at the interface between ISDN/GSM and IP. Calculation of QoS parameters for the DS domain on the selected path, i.e. calculation of IPLR, IPDT, IPDV. Getting to know the standards and requirements for the quality of services in the IP QoS network. Discussion of the mechanisms implemented in Linux used to implement the service system in edge routers (RB) and core routers (RR). Discussion and writing scripts for RB and RR routers. Tools used in the laboratory to generate, observe and measure packet streams.</p>						
Prerequisites and co-requisites	No requirements						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Project		50.0%		50.0%		
	Practical exercise		50.0%		50.0%		
Recommended reading	Basic literature		Materials prepared by the lecturer available in electronic form in PDF files and in the form of a photocopy (on request).				
	Supplementary literature		No requirements.				
	eResources addresses		Adresy na platformie eNauczanie:				
Example issues/ example questions/ tasks being completed							

Work placement	Not applicable
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