

。 GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Wireless Systems Design II, PG_00048126								
Field of study	Electronics and Telecommunications								
Date of commencement of studies	October 2022		Academic year of realisation of subject			2024/2025			
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 Radiocommunication Systems and Networks -> Faculty of Electronics, Telecommunications and Informatics						munications		
Name and surname	Subject supervisor		dr inż. Agnieszka Czapiewska						
of lecturer (lecturers)	Teachers		dr inż. Agnies	zka Czapiewsl	ka				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Projec	t	Seminar	SUM	
	Number of study hours	15.0	0.0	0.0	15.0		0.0	30	
	E-learning hours inclu	uded: 0.0				1		1	
Learning activity and number of study hours	Learning activity	Participation in classes includ plan	n didactic ed in study	Participation in consultation hours		Self-study SUM		SUM	
	Number of study hours	30		2.0		18.0 50		50	
Subject objectives	The main goal of this course is to present some practical aspects of wireless radio network design including implementation problems which may occur during construction, launch and operation stage.								
Learning outcomes	Course out	come	Subj	ect outcome			Method of veri	fication	
	[K6_U31] can identify telecommunications network architectures, differentiates their areas and functional elements, evaluates the quality of service delivery, calculates parameters of functional elements		Student can design base stations for cellular networks taking into account initial assumptions and limitations caused by availability of base station components.			[SU1] Assessment of task fulfilment			
	[K6_W35] Knows the concepts of the technique of signal transmission, operation of telecommunications networks and multimedia services and the rules for providing them		Student knows typical components used in base stations of radiocommunication networks, including design rules, tests during launch stage and methods of maitenance during operation.			[SW1] Assessment of factual knowledge			
Subject contents	 Elements of antenna feeding circuits Outdoor base stations Indoor base stations Fixed part of cellular networks (fixed links, commutation) Collocation of radiocommunication objects (technical and compatybility issues) Detailed projects of radio installations Test network, test and optimization phase, final network Law and legal requirements Environment protection law Legal procedures before, during and after radio object construction phase Radio services evolution and it's impact to network topology Network topology in different cellular systems generations Virtual networks - design aspects Radio objects supervision during operation Measurements of emission and quality of service in radiocommunication networks 								
and co-requisites									

Assessment methods	Subject passing criteria	Passing threshold	Percentage of the final grade			
and criteria	Project	50.0%	50.0%			
	Lecture	50.0%	50.0%			
Recommended reading	Basic literature	Czapiewska A.: Wireless systems design - script for lecture.				
	Supplementary literature	No requirements				
	eResources addresses	Adresy na platformie eNauczanie:				
		Projektowanie Sieci Bezprzewodowych II 2024/2025 - Moodle ID: 43018				
		https://enauczanie.pg.edu.pl/moodle/course/view.php?id=43018				
Example issues/ example questions/ tasks being completed						
Work placement	Not applicable					

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