GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Radio Communication Systems - project, PG_00048134					
Field of study	Electronics and Telecommunications					
Date of commencement of studies	October 2023		Academic year of realisation of subject		2025/2026	
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		1.0	
Learning profile	general academic profile		Assessment form		assessment	
Conducting unit	Department of Algorithms and Systems Modelling -> Faculty of Electronics, Telecommunications and Informatics					
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Andrzej Marczak				
	Teachers	dr inż. Andrzej Marczak				

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	0.0	15.0	0.0	15
	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	15	1.0	9.0	25

Subject objectives	Designing the network of the digital radio communication system		

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_W35] Knows the concepts of the technique of signal transmission, operation of telecommunications networks and multimedia services and the rules for providing them	The student knows the techniques of signal transmission used in digital cellular systems and the operation of such systems.	[SW3] Assessment of knowledge contained in written work and projects
	[K6_U31] can identify telecommunications network architectures, differentiates their areas and functional elements, evaluates the quality of service delivery, calculates parameters of functional elements	The student calculates the parameters of the designed cellular system network.	[SU1] Assessment of task fulfilment
	[K6_K02] is ready to critically assess possessed knowledge and acknowledge the importance of knowledge in solving cognitive and practical problems	The student using the documentation of the cellular system searches the data necessary to complete the task.	[SK5] Assessment of ability to solve problems that arise in practice

Subject contents	1. Calculate the area of a single hexagonal cell. 2. Calculate the number of cells in a certain area. 3. Calculating the number of channels per single cell. 4. Determination of the number of channels in the radio communication system. 5. Determination the total traffic that can be supported by a single cell based on Erlang table. 6. Determination of the number of subscribers that can be supported in the analyzed system bundle cells. 7. Calculation of the capacity of the system.		

Prerequisites and co-requisites	No requirements		

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Project	51.0%	100.0%

Recommended reading	Basic literature	R. Zienkiewicz Telefony komórkowe GSM i DCS WKŁ Warszawa
	Supplementary literature	No requirements

	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	