



Subject card

Subject name and code	Radio Communication Systems - project, PG_00048134						
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			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_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		
	[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_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		
Subject contents	<ol style="list-style-type: none"> Calculate the area of a single hexagonal cell. Calculate the number of cells in a certain area. Calculating the number of channels per single cell. Determination of the number of channels in the radio communication system. Determination the total traffic that can be supported by a single cell based on Erlang table. Determination of the number of subscribers that can be supported in the analyzed system bundle cells. 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 WKL. Warszawa					
	Supplementary literature	No requirements					
	eResources addresses						

Example issues/ example questions/ tasks being completed	
Work placement	Not applicable