GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Networked Mobile Technologies, PG_00048294		
Field of study	Informatics		
Date of commencement of studies	February 2023	Academic year of realisation of subject	2023/2024
Education level	second-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	1	Language of instruction	Polish
Semester of study	2	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	exam
Conducting unit	Department of Geoinformatics -> Faculty of Electronics, Telecommunications and Informatics		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Marcin Kulawiak	
	Teachers	dr inż. Marek Kulawiak dr hab. inż. Marcin Kulawiak	

Lesson types and methods of instruction							
	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	0.0	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	6.0	39.0	75

Subject objectives	The aim is to develop a computer engineer who has knowledge and skills in communication techniques used in devices mobilnych.Jest prepared to work effectively in development teams in IT companies and ICT as well as in education, where their knowledge and skills will be used with the principles of legal and ethical awareness, and the social problems of computerization.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_U42] can solve engineering and research problems including design, assessment and maintenance of information systems and applications, using experimental methods and management techniques	The student can implement server and client applications which realize wireless communication on mobile devices.	[SU1] Assessment of task fulfilment
	[K7_W03] Knows and understands, to an increased extent, the construction and operating principles of components and systems related to the field of study, including theories, methods and complex relationships between them and selected specific issues - appropriate for the curriculum.	The student knows and understands the structure and principles of mobile applications which use wireless communication.	[SW1] Assessment of factual knowledge
	[K7_U06] can analyse the operation of components, circuits and systems related to the field of study; measure their parameters; examine technical specifications; interpret obtained results and draw conclusions	The student can use tools for monitoring the network communication between mobile devices.	[SU4] Assessment of ability to use methods and tools
	[K7_W41] Knows and understands, to an increased extent, the standards, production methods, life cycle and development trends of software as well as information systems and applications.	The student knows and understands the ewolution of consecutive versions of wireless communication standards and their applications for mobile devices.	[SW1] Assessment of factual knowledge
	[K7_W06] Knows and understands, to an increased extent, the basic processes taking place in the life cycle of devices, facilities and technical systems.	The student knows and understands the methods of realizing wireless communication using mobile devices.	[SW2] Assessment of knowledge contained in presentation

Subject contents

GSM network architecture
Aspects of handling bluetooth connections in mobile devices
Aspects of handling HTTP and HTTPS connections in mobile devices
Connections using sockets on mobile devices
Other standards for wireless connections used in mobile devices
Calling network services on mobile devices
Introduction to mobile websites
Programming web applications for mobile devices
Cloud computing in a mobile environment
Other available network solutions for mobile platforms

Prerequisites and co-requisites

Basics of Java, C++ and Javascript programming.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Lecture	60.0%	50.0%
Laboratory	50.0%	50.0%

Recommended reading

Basic literature	Android Programming Guide Windows Phone 7 Programming Guide IOS and iPhone Programming
Supplementary literature	TCP/IP. Experts book.Ed II Autorzy: Karanjit S. Siyan, Tim Parker
eResources addresses	Adresy na platformie eNauczanie: Sieciowe Technologie Mobilne - Moodle ID: 33425 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=33425

Example issues/ example questions/ tasks being completed	Creating a mobile application that uses Wi-Fi communication Creating a mobile application using the Bluetooth
Work placement	Not applicable