



Subject card

Subject name and code	Networked Mobile Technologies, PG_00047765						
Field of study	Informatics						
Date of commencement of studies	October 2024	Academic year of realisation of subject			2025/2026		
Education level	second-cycle studies	Subject group			Optional subject group Subject group related to scientific research in the field of study		
Mode of study	Part-time studies	Mode of delivery			at the university		
Year of study	2	Language of instruction			Polish		
Semester of study	3	ECTS credits			4.0		
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 hab. inż. Marcin Kulawiak					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	18.0	0.0	0.0	15.0	0.0	33
	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	33		10.0		57.0	100
Subject objectives	The students will learn about web technologies used in mobile systems. The technologies involve Bluetooth, WiFi, GSM/GPRS, 3G, 4G etc.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[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 is able to use methods of analyzing network communication between mobile devices.	[SU4] Assessment of ability to use methods and tools
	[K7_W08] knows and understands, to an increased extent, the fundamental dilemmas of modern civilisation, the main development trends of scientific disciplines relevant to the field of education	The student knows and understands the principles of wireless communication on mobile devices.	[SW1] Assessment of factual knowledge
	[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 that realize wireless communication on mobile devices.	[SU1] Assessment of task fulfilment
	[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 evolution of subsequent versions of wireless communication standards on mobile devices.	[SW1] Assessment of factual knowledge
	[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 the principles of wireless communication methods on mobile devices.	[SW1] Assessment of factual knowledge
Subject contents	1. GSM network architecture 2. Aspects of handling bluetooth connections in mobile devices 3. Aspects NFC connection handling in mobile devices 4. Connections using sockets on mobile devices 5. Other standards of wireless connections on mobile devices 6. Using Web services on mobile devices 7. Programming web applications for mobile devices 8. Architecture of Web services created in JEE. 9. Elements of HTML5 in the context of mobile devices. 10. Other available network solutions for mobile platforms.		
Prerequisites and co-requisites	No requirements		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Project	60.0%	50.0%
	Written exam	60.0%	50.0%
Recommended reading	Basic literature	Creating a Web service with JEE and NetBeans http://netbeans.org/kb/docs/websvc/jax-ws.html Creating an Android Web service client with ksoap2 http://www.ibm.com/developerworks/webservices/library/ws-android/index.html Android application development http://developer.android.com/guide/components/index.html	
	Supplementary literature	The J2EE Tutorial by Eric Armstrong, Jennifer Ball, Stephanie Bodoff,Debbie Bode Carson, Ian Evans Dale, Green Kim Haase, Eric Jendrock	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	Creating a Web service for mobile devices. Describing the evolution of packet communication standards on mobile devices.		

Work placement	Not applicable
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