



Subject card

Subject name and code	Advanced iOS application development, PG_00048302						
Field of study	Informatics						
Date of commencement of studies	February 2024	Academic year of realisation of subject			2024/2025		
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	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 -> Wydział Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor	mgr inż. Tomasz Idzi					
	Teachers	mgr inż. Tomasz Idzi					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	0.0	15.0	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	8.0		62.0		100
Subject objectives	To familiarise students with Swift programming language and using it for application development in iOS. The subject concerns advanced issues connected with application development and extending, like writing unit tests and tests of the user interface which has been implemented as universal and responsive. To utilise fully the platform potential, applications are expected to be extended by supporting the offline mode with using Core Data.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_U04] can apply knowledge of programming methods and techniques as well as select and apply appropriate programming methods and tools in computer software development or programming devices or controllers using microprocessors or programmable elements or systems specific to the field of study, making assessment and critical analysis of the prepared software as well as a synthesis and creative interpretation of information presented with it	Students have to create the app for iOS which will make request to web service, get data, parse and display in specific user interface.	[SU4] Assessment of ability to use methods and tools [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.	Apps which are made by students have to support the newest version of iOS and programming language – Swift. Also have to be based on modern design patterns.	[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	Thanks to the implemented unit tests, you can check the performance of your application and start the optimization process on this basis.	[SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment
	[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	Students know the architecture of MacOS X and iOS systems, and can identify common features with *nix systems. Students create applications for MacOS X and iOS systems that use digital maps.	[SW1] Assessment of factual knowledge
[K7_U07] can apply advanced methods of process and function support, specific to the field of study	Students will learn about Core Data - an implementation of an object database used in practice. What's more, they will cover the applications they produce with unit tests and interface tests.	[SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment	
Subject contents	<ul style="list-style-type: none"> - News in iOS - Swift programming language, introduction - Swift programming language, advanced practices - Core Data - Unit tests - UI tests - Advanced techniques of UI development 		
Prerequisites and co-requisites	None.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	lab	50.0%	40.0%
	project	50.0%	20.0%
	lecture	50.0%	40.0%

Recommended reading	Basic literature	1. Tomasz Idzi; Lecture materials, Online, 2018; 2. Tomasz Idzi; Lab materials, Online, 2018; 3. Sessions Videos from WWDC; Online (developer.apple.com), 2018
	Supplementary literature	1. The Swift Programming Language, Apple Inc. 2014 2. App Development With Swift, Apple Inc. 2016
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	- Creation of an application using UICollectionView- Creation of an application using file work, UITableView and maps- Creation of an application using Core Data- Gesture recognition in a mobile application	
Work placement	Not applicable	

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