1.	Field of study	Computer Science
2.	Faculty	Faculty of Science and Technology
3.	Academic year of entry	2021/2022 (summer term), 2022/2023 (winter term)
4.	Level of qualifications/degree	second-cycle studies
5.	Degree profile	general academic
6.	Mode of study	part-time

Module: Mobile systems and applications

Module code: W4-IN-N2-20-F-SiAM

1. Number of the ECTS credits: 4

2. Learning outcomes of the module			
code	description	learning outcomes of the programme	level of competence (scale 1-5)
M_001	Has knowledge in the field of mobile systems programming and using standard modules of mobile devices.	K_W02	1
M_002	Has knowledge in the field of designing graphical user interfaces for mobile applications	K_U10	1
		K_W05	1
M_003	Can select an appropriate programming language and environment for programming a device, can operate emulators of mobile devices	K_W04	1
M_004	Designs and implements applications for mobile devices according to the given specification (having particular functionality)	K_U10	1
		K_W03	1
M_005	Independently gets acquainted with issues, also beyond the field of study, which enable to create interdisciplinary projects	K_K01	1
		K_U01	1
		K_U05	1
		K_U06	1
M_006	Is able to prepare a documentation for a project task	K_U03	1
M_007	Presents the results of own work, software functionality, can justify selected solutions and draw the appropriate conclusions	K_U04	1

3. Module description	
Description	The aim of classes consisting this module is to prepare students to create applications for mobile devices. As a result, the student should exhibit knowledge in the field of construction and hardware capabilities as well as programming capabilities of mobile devices. Moreover, students should be

	familiar with issues of wireless data transfer and the principles of operating the GPS system and other modules typical for mobile systems and devices. In consequence, this should lead to an acquisition of a complex knowledge enabling to create applications for mobile devices of various types.
Prerequisites	

4. Assessment of the learning outcomes of the module

code	type	description	learning outcomes of the module
W_001	Project Task - Mobile App	The task is to design, implement, launch and test a mobile application with a functionality accepted by the teacher	M_001, M_002, M_003, M_004, M_005, M_006
W_002	Presentation and discussion on the implementation of the project task	Questions evaluating the level of understanding of issues related to the construction and operating of mobile device allowing its programming. Verification of the ability to generalize the skills acquired during the implementation of the task.	M_001, M_002, M_003, M_005, M_007

5. Forms of teaching

code	form of teaching			required hours of student's own work		assessment of the learning outcomes of the module
	type	description (including teaching methods)	number of hours	description	number of hours	
Z_001	lecture	Description of principles and content, discussion during classes. Material available in the form of a multimedia content. Online courses and training available on e-learning platforms.	15	Familiarization with the materials shared online. Completion of the selected - accepted by the teacher - online course. Preparing to pass the course.	15	W_002
Z_002	laboratory classes	Design, implementation, running and testing of sample mobile applications. Presentation of work effects, discussion of applied solutions.	30	Design, implementation, running and testing of a project task. Familiarization with the specification of the project task. Preparation for laboratory classes. Preparation of documentation and presentation of the project task.	60	W_001, W_002