COURSE UNIT DESCRIPTION

Course unit title	Code
PROGRAMMING TECHNOLOGIES FOR MOBILE DEVICES	

Annotation
In this course, students will be introduced to the basic mobile programming platforms and technologies, including graphical user interface development technologies, application logic layer elements, application and modular testing principles, and the Unity mobile application development tool.

Lecturer(s)	Department, Faculty
Coordinating: Dr. Martas Ambraziūnas **Other:**	Kaunas Faculty, Institute of Social Sciences and Applied Informatics

Study cycle	Type of the course unit
Bachelor	Compulsory

Mode of delivery	Semester or period when it is delivered	Language of instruction
Auditorium	3	LT/EN

Requisites	
Prerequisites: Programming languages and OO programming	**Co-requisites (if relevant):**

Number of ECTS credits allocated	Student's workload (total)	Contact hours	Individual work
5	130	52	78

Purpose of the course unit: programme competences to be developed		
To develop the ability to understand, analyze and apply the basic technologies for internet related information systems development and their methods of practical application.		
Learning outcomes of the course unit	**Teaching and learning methods**	**Assessment methods**
Will be able to prepare and apply in practice the basics Apps for Android and Windows Phone development tools (Android Studio, Visual Studio) and technologies (XAML, etc.).	Individual consultations, lab works, analysis of literature	Exam, individual work, defense of laboratory work
Will be able to create apps for Android and For Windows Phone platforms that include basic graphical user interfaces are used, logic and data layer elements.	Individual consultations, individual project, lab works	Exam, individual work, colloquium, laboratory work defense

Course content: breakdown of the topics	Contact hours							Individual work: time and assignments	
	Lectures	Consultations	Exam	Workshops	Laboratory work	Internship/work placement	Contact hours, total	Individual work	Assignments
1. Mobile technologies, platforms, devices types.	2						2	10	Laboratory work tasks performance; preparation for colloquium; practical work preparation and defense
2. Development of applications for mobile devices environments, their configuration and commissioning.	2				4		6	10	
3. Graphics for mobile applications user interface development technology (XAML) and basic graphic elements.	2				8		10	10	
4. Basic Mobile Devices application logic layer elements, their architecture and interconnections.	4				8		12	20	
5. Basic Mobile Devices application data layer elements.	2				8		10	10	
6. Testing of applications for mobile devices and modular testing.	2				4		6	10	
7. Mobiliems įrenginiams skirtų aplikacijų paruošimas talpinimui internete, „Unity" mobilių programėlių kūrimo įrankis.	2						2	8	
Consultation		2							
Exam			2						
Total	**16**	**2**	**2**		**32**		**52**	**78**	

Assessment strategy	Weight %	Deadline	Assessment criteria
Lab No. 1	10	5th week	Create an app for the Android platform using basic graphic and logic elements. Used for work Android Studio programming environment. Appreciated programming quality and gadgets created functionality (50% respectively)
Lab No. 2	10	7th week	Create an app for the Android platform using SQLite database or XML files for data storage and retrieving data from external data sources (XML feeds). Android Studio programming is used for the work environment. The quality of programming and the developed ones are evaluated gadget functionality (50% each).
Colloquium	10	8th week	The knowledge acquired during 1-8 theoretical lectures is assessed. During the colloquium there are 4 questions (answers are evaluated after 25% each)
Lab No. 3	10	13th week	Create an app for the Windows Phone platform using basic graphic and logic elements. For work uses the Visual Studio programming environment. Appreciated programming quality and gadgets created functionality (50%

			respectively).
Lab No. 4	10	15th week	Create an app for the Windows Phone platform using a Local database or XML files data storage and data retrieval from external data sources (XML feeds). Visual Studio programming environment. Evaluated programming quality and functionality of the generated app (respectively after 50%).
Individual work	10	10-14th week	The following aspects of the work are assessed: Structure and scope of the work: the structure of the written work is clear and logically, there are all the necessary parts (introduction, where topic, goals, objectives, methods, empirical material; teaching where analysis of empirical material is presented; and interpretation; conclusions), the work is of appropriate scope (0.25 balo); Analysis and conclusions: the analysis is very detailed, the conclusions are reasonable, formulated on the basis of empirical material (2 points); if analysis performed but not complete, conclusions are not always substantiated, awarded 1 point, for superficial analysis points are not allocated. Writing style and research culture: treated appropriately sources and citations; wording and style match requirements of scientific work (0.25 points). Assessment without written work - 0 points. Presentation of the work: presentation of the work is clear and logical, properly presented main work results (0.5 points)
Exam	40	16th week	Will be in written form: 4 questions (evaluation of 25% each).

Author	Publishing year	Title	Issue of a periodical or volume of a publication; pages	Publishing house or internet site
Required reading				
B. Phillips, B. Hardy Prieiga:	2013	Android Programming: The Big Nerd Ranch Guide		http://www.bignerdranch.com/wewrite/android-programming
L. Lalonde, D. R. Totzke	2013	Windows Phone 8 Recipes: A Problem-Solution Approach		http://www.apress.com/ 978143025 9022
Recommended reading				
Google	2014	Android Developers		http://developer.android.com
Microsoft	2014	Dev Center		http://dev.windows.com