

**FACULTY OF ENGINEERING
STUDY COURSE DESCRIPTION**

Course Title:	INTRODUCTION TO MOBILE TECHNOLOGIES				
Course code (VAIS):	DatZ1014				
Study programme:	Information technologies				
Level of Study programme:	<input type="checkbox"/>	1st level professional higher education			
	<input checked="" type="checkbox"/>	Professional Bachelor			
	<input type="checkbox"/>	Professional Master			
	<input type="checkbox"/>	PhD level			
Type of Study programme:	<input checked="" type="checkbox"/>	Compulsory course (Part A)			
	<input type="checkbox"/>	Professional specialization courses (Part B, compulsory)			
	<input type="checkbox"/>	Professional specialization optional courses (Part B, optional)			
	<input type="checkbox"/>	Elective courses (Part C)			
Course Workload:	Credits	ECTS	Academic hours	Contact hours	Independent work hours
	2	3	80	32	48
Course Author/ Tutor:	Kaspars Osis				
	Assoc. Prof., Dr.sc.ing.				
	kaspars.osis@va.lv				
	Consultation: according to the schedule for each semester or per individual agreement.				
	Mārtiņš Janševskis				
	Mg.comp., doctoral studies				
	martins.jansevskis@va.lv				
Consultation: according to the schedule for each semester or per individual agreement.					
Course Form:	Full time				
Study year, semester:	1 st year, 2 nd semester				
Language:	Latvian, English				
Prerequisites for the Course:	None.				
Course Summary:	<p>The aim of this course is to provide concise overview of mobile technologies development areas and practical knowledge about current mobile technology development solutions by focusing on cross-platform solutions (e.g. PhoneGap / Apache Cordova) as well as introduction in basics of Internet of Things. By performing practical assignments students will have an opportunity to gain and improve their practical skills in area of mobile technology (i.e. in particular by using common coding for different platforms (i.e. HTML, CSS and JavaScript)) solutions development. The work within the course is done in small groups. The study course is the preparatory step to enhance practical skills in development of mobile cross-platform solutions and by combining them with skills acquired in other courses to provide the foundation for multidisciplinary solutions development.</p>				
Course Methods:	Lectures, practical activities, group work, theory tests, final assessment (project work assignment) etc.				
Assessment:	Examination (project work assignment)				
Requirements for Credits:	<ol style="list-style-type: none"> 1. Successful completion of workshops/practical work assignments (at least 60% points of totally available). 2. Passed theoretical tests. 3. Successful completion of project work assignment (at least 70% points of totally available). 				

	<p>Final assessment consists of: workshops/practical work assignments, group work evaluations; theoretical tests; project work assignment and project work assignment presentation.</p> <p>All practical work assignments have to be accepted (i.e. at least with 60% evaluation) in order to get the final evaluation within this course. 250 points system is used to come up with final evaluation. Table below lists totally available points for each activity.</p> <table border="1" data-bbox="579 465 1398 667"> <thead> <tr> <th>Work assignment or activity</th> <th>Points</th> </tr> </thead> <tbody> <tr> <td>Practical work assignments</td> <td>90</td> </tr> <tr> <td>Theoretical tests</td> <td>30</td> </tr> <tr> <td>Participation in class work activities</td> <td>15</td> </tr> <tr> <td>Project work assignment (exam)</td> <td>100</td> </tr> <tr> <td>Project work assignment presentation (exam)</td> <td>15</td> </tr> <tr> <td>Total</td> <td>250</td> </tr> </tbody> </table> <p>Final course evaluation (mark) calculation based on 250 points system is done as it follows below:</p> <p> $\geq 93\%$ (232-points) = 10 $\geq 79\%$ (197- points) = 6 $\geq 90\%$ (225- points) = 9 $\geq 75\%$ (187- points) = 5 $\geq 87\%$ (217- points) = 8 $\geq 70\%$ (175- points) = 4 $\geq 83\%$ (207- points) = 7 $< 70\%$ (175- points) = 3 </p> <p>Missing practical work assignment deadline: each missed day counts for subtraction of 5% from totally available points. It is required to acquire at least 60% from totally available points (not counting potential delay) in order to accept practical work assignment as done.</p>		Work assignment or activity	Points	Practical work assignments	90	Theoretical tests	30	Participation in class work activities	15	Project work assignment (exam)	100	Project work assignment presentation (exam)	15	Total	250
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Total	250															
Course Contents:	<p>Introduction in course; Mobile technology research areas, performing research in the chosen domain; Generation of ideas; Introduction into PhoneGap environment. Configurations/basics; First application development. Introduction into HTML, CSS and JavaScript. Events. Work with Device. Usage of geolocation and vibration API. PhoneGap Build. Compass. Accessing device's camera and work with files. Storage options. Introduction into Internet of Things. Usage of sensors and development number of simple projects.</p>															
Learning Outcomes; the evaluation methods and criteria	<table border="1"> <thead> <tr> <th>Learning Outcomes</th> <th>The evaluation methods and criteria</th> </tr> </thead> <tbody> <tr> <td colspan="2">Knowledge</td> </tr> <tr> <td>Knowledge on mobile solutions research areas. Generation of Ideas.</td> <td>Development of particular mobile technology solution concept. Passed theoretical test.</td> </tr> <tr> <td>Knowledge on HTML, CSS and JavaScript, PhoneGap solutions types and data persistence options.</td> <td>Development of particular mobile technology solution concept. Passed theoretical test.</td> </tr> <tr> <td>Knowledge regarding events, their types and</td> <td>Development of particular mobile</td> </tr> </tbody> </table>	Learning Outcomes	The evaluation methods and criteria	Knowledge		Knowledge on mobile solutions research areas. Generation of Ideas.	Development of particular mobile technology solution concept. Passed theoretical test.	Knowledge on HTML, CSS and JavaScript, PhoneGap solutions types and data persistence options.	Development of particular mobile technology solution concept. Passed theoretical test.	Knowledge regarding events, their types and	Development of particular mobile					
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	application areas.	technology solution concept. Passed theoretical test.
Skills		
	To develop cross-platform mobile technology solution with beginning complexity.	Developed practical group work.
	To develop cross-platform mobile technology solution using file functionality.	Developed practical group work.
	To develop cross-platform simplified level mobile technology solution by using device's sensors and other hardware.	Developed practical group work.
Competency		
	Use correct cross-platform mobile technology solutions terminology. To choose appropriate technological approaches for particular assignment implementation.	Course project development and presentation.
	Independently perform cross-platform mobile technology solutions development design and architecture.	Course project development and presentation.
	To solve cross-platform mobile technology solutions basic issues, to perform testing and debugging activities.	Course project development and presentation.
Course Compulsory literature:	1. Z. S. Pamungkas. PhoneGap 4 Mobile Application Development Cookbook, Packt, 2015.	
Course additional literature:	1. R. Ghatol, Y. Patel. Beginning PhoneGap – Mobile Web Framework for JavaScript and HTML5, APress, 2012. 2. T. Myer. Beginning PhoneGap, Wiley. 2012.	
Course confirmation date:	31.08.2017.	
Date of course description update:	30.01.2018.	

Study Course Plan:

Date	Theme	Academic hours		Study Form
		Contact hours	Independent work hours	
	Introduction in course; mobile technology research areas, performing research in the chosen domain; generation of ideas; Introduction into PhoneGap environment. Configurations/basics; first application development.	8	8	Theoretical lecture. Several topics covering practical work. Group work.
	Introduction into HTML, CSS and JavaScript. Events. Work with Device. Usage of geolocation and	8	8	Theoretical lecture. Several topics covering practical work. Group work

	vibration API.			
	PhoneGap Build. Compass. Accessing device's camera and work with files. Storage options.	8	8	Theoretical lecture. Several topics covering practical work. Group work
	Introduction into Internet of Things. Usage of sensors and development number of simple projects.	4	4	Theoretical lecture. Several topics covering practical work. Group work
	Final examination	4	20	Course project development and presentation.

Note: lecturer keeps the rights to make changes in the course plan.