



MARMARA UNIVERSITY - FACULTY OF ENGINEERING

2017-2018 Fall

CSE4086 Mobile Device Programming

COURSE DESCRIPTION FORM

Offering Department		Department of Computer Engineering		Technical Elective								
Course Code		CSE4086										
Course Name		Mobile Device Programming										
Language of Instruction		English										
ECTS		5										
Contact Hours		Theoretical (T): 3			Practice (P): 0			Laboratory (L):0				
Pre-requisites		-										
Instructor		Name		Ali Fuat ALKAYA								
		E-mail		falkaya@marmara.edu.tr								
Course Materials		Mandatory		Android How to Program, Deitel and Deitel								
		Recommended		http://mimoza.marmara.edu.tr/~falkaya/cse486								
Course Objectives		This course will provide students with a rich development experience, focused on the design and implementation of mobile applications. Students will invent their own mobile applications and implement them using the Android SDK, which is JAVA based. An overview of the Android platform and available technologies will be provided, as well as XML for layouts, and general concepts for effective mobile development. Students will be expected to explore and experiment with outside resources in order to learn technical details independently.										
Course Content		Creating XML based layout, designing menu, writing to file, creating AlertDialog, using location and map information, putting the programs to the Android market.										
Learning Outcomes		LO1		Having knowledge about Android's basic features, using Android Studio and creating virtual devices.								
		LO2		Using Android visual components (GUI).								
		LO3		Having knowledge about intents and data transfer in activity using intents.								
		LO4		Menu design and implementation.								
		LO5		Writing to file and read data from file or database.								
		LO6		Using maps and location information.								
		LO7		Preparing project report.								
Program Outcomes				LO1	LO2	LO3	LO4	LO5	LO6	LO7		
PO3		Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way so as to meet the desired result (a); ability to apply modern design methods for this purpose (b).				b	b	b	b			
PO7		Ability to communicate effectively in Turkish, both orally and in writing (a); ability to write effective reports, to understand written reports and to prepare design/production reports in a foreign language (b); ability to do effective presentations; ability to take and give clear instructions (c).								b		
PO8		Recognition of the need for lifelong learning (a); ability to access information, to follow developments in science and technology, and to continue to educate him/herself (b).		b	b							
Subjects (Knowledge, Skills and Behaviours), Contributions of Subjects to Learning Outcomes, Assessment Methods		No	Week	Subjects	LO1	LO2	LO3	LO4	LO5	LO6	LO7	
		S1	1	Mobile Device Programming and Android Overview.	F							
		S2	2	Android Basics and Features Create a project using Android Studio, GenyMotion and Android Virtual Devices creation.	H,F							
		S3	3-4	Create an XML based layout Use of Visual Components and Containers (TextView, EditText) Responding to user transactions with process interpreters.		H,P,F						
		S4	5-6	Add Button ve ScrollView Creating a visual component dynamically Use of SharedPreferences Creating AlertDialog		H,P,F						
		S5	7	The use of Activity lifecycle methods Data transfer of activity using intent			H,P,F					
		S6	8	Creating a menu Use of Assets folder and Handler Use of ArrayList and HashMap				H,P,F				

	S7	9	Use of SensorManager Use of Toast			H,P,F															
	S8	10	Use of SQLite database Use of threads to prevent App Not Responding (ANR) state					H,P,F													
	S9,S10	11-12	Access to location-based services Use of maps Access to files						P												
	S11	13	Project presentations	P	P	P	P	P	P	P											
		14	Project presentations	P	P	P	P	P	P	P											
Assessment Methods and Weights	No	Type	Weight	Implementation Rule			Make-up Rule														
	F	Final	40%	There is one final exam. Books and other course materials are closed during the exams			Marmara University regulations will be followed for make-up exams.														
	H	Homeworks	30%	Late homeworks are not acceptable. Homeworks that are not submitted will get zero points. There are three homeworks.																	
	A	Attendance	10%	There is attendance for each hour of this course.																	
	P	Project	20%	There is a term project with a group of two or three students. The project is expected to be completed in seven weeks. The project aims to develop a realistic mobile game or application.																	
	TOTAL			100%																	
Determining Letter Grades	<ul style="list-style-type: none"> The letter grades will be determined based on the final exam, project and homeworks. In order to determine the letter grade, a curve or catalog based method will be followed based on the total average scores of the students. The final exam score and the total average score of the student must be at least 35 to pass the course. According to Marmara University Undergraduate regulations, the weight of the final exam must be at least 40 out of 100. 																				
	<table border="1"> <thead> <tr> <th>Assessment</th> <th>Homeworks</th> <th>Project</th> <th>Attendance</th> <th>Final</th> <th>TOTAL</th> </tr> </thead> <tbody> <tr> <td>Weight</td> <td>30</td> <td>20</td> <td>10</td> <td>40</td> <td>100</td> </tr> </tbody> </table>										Assessment	Homeworks	Project	Attendance	Final	TOTAL	Weight	30	20	10	40
Assessment	Homeworks	Project	Attendance	Final	TOTAL																
Weight	30	20	10	40	100																
Teaching Method, Student Work Load	Time Applied by the Instructor																				
	No	Method	Explanation						Hours												
	1	Lectures	Lectures are given in class using the board or via presentations. Example questions are solved to enhance the concepts.						14x3=42												
	2	Problem Session/ Practice	Problems related to the course topics are solved on the board.																		
	3	Laboratory	Experiments are done in the laboratory or theoretical concepts covered during the lectures are practiced using computer exercises.																		
	4	Interactive Courses	Questions are asked to students during lectures and they are encouraged to guess the answers (peer learning is also in this category)																		
	5	Field Work	Students attend activities outside the campus.																		
	6	Midterm	Midterm exam is given during the midterm week.																		
	7	Final	Final exam is given during the final exam week.						2												
	Estimated Time to be Allocated by a Student																				
	8	Project	The students carry out research about the problem given in the project, design and implement their solution and prepare a report.						45												
	9	Homeworks	The students solve the problems given as homework.						10x3=30												
	10	Pre-class learning of Course Material	The students study and learn the new subjects from course materials.																		
11	Review of Course Material	Students review the course subjects from course materials to prepare for the exams and homeworks.						7													
12	Office Hour	Students ask questions to the instructor or the assistant during office hours.						2													
Total								128													
Academic Honesty	Violations of scholastic honesty include, but are not limited to cheating, plagiarizing, fabricating information or citations, facilitating acts of dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students.																				
	In case academic dishonesty is observed, the first authority is the instructor of the course. The instructor may decide to give the student zero for the homework(s)/lab(s)/exam(s), give the letter grade FF, or may take disciplinary action.																				