



MARMARA UNIVERSITY - FACULTY OF ENGINEERING

2017-2018 Fall

CSE4070 Software Frameworks

**COURSE DESCRIPTION FORM**

<b>Offering Department</b>	Department of Computer Engineering		Technical Elective					
<b>Course Code</b>	CSE4070							
<b>Course Name</b>	Software Frameworks							
<b>Language of Instruction</b>	English							
<b>ECTS</b>	5							
<b>Contact Hours</b>	Theoretical (T): 3		Practice (U):			Theoretical (T):		
<b>Pre-requisites</b>	---							
<b>Instructor</b>	<b>Name</b>							
	<b>E-mail</b>							
<b>Course Materials</b>	<b>Mandatory</b>		X Jia, "Object-Oriented Software Development", Addison Wesley, 2003					
	<b>Recommended</b>		Gamma, Helm, Johnson, Vlissides, "Design Patterns", Addison Wesley, 1994					
<b>Course Objectives</b>	To learn the properties of different frameworks in Java programming language. Identify the appropriate framework for different situations and provide software development using this framework.							
<b>Course Content</b>	Classes and Objects for Object Oriented Languages. Object oriented modeling and frameworks. Collections: List & Set. Overloading & Overriding. Collections: Map & Properties. I/O: Streams, byte processing. I/O: Readers & Writers, char processing. Threads: Time measurement & animation. Threads: Implementation of a clock. GUI: AWT framework; 2D Graphics. GUI: swing framework; Drag & Drop. Case study: Browser; Design by abstraction. Design patterns							
<b>Learning Outcomes</b>	<b>LO1</b>	Using the concepts of class, object, software frames, and threads in object-oriented languages appropriately.						
	<b>LO2</b>	Implementing a given problem using one of the appropriate collections such as list, set, map, or sequential character sequence.						
	<b>LO3</b>	Using overriding and overloading methods effectively						
	<b>LO4</b>	Implementing an application using AWT framework						
	<b>LO5</b>	Implementing an application using Swing framework						
<b>Program Outcomes</b>		<b>LO1</b>	<b>LO2</b>	<b>LO3</b>	<b>LO4</b>	<b>LO5</b>		
<b>PO1</b>	Adequate knowledge in mathematics, science (a) and computer engineering subjects (b) pertaining to the relevant discipline (1); ability to use theoretical and applied information in these areas to model and solve engineering problems (2).		2b	2b	2b	2b	2b	
<b>PO4</b>	Ability to devise (a), select, and use (b) modern techniques and tools needed for engineering practice (1); ability to employ information technologies effectively (2).					2b	2b	
<b>Subjects (Knowledge, Skills and Behaviours), Contributions of Subjects to Learning Outcomes, Assessment Methods</b>	<b>No</b>	<b>Week</b>	<b>Subjects</b>	<b>LO1</b>	<b>LO2</b>	<b>LO3</b>	<b>LO4</b>	<b>LO5</b>
	S1	1	Classes and objects	MF, H				
	S2	2-3	Object oriented modeling and frameworks	MF, P				
	S3	4-5	Collections		H, P			
	S4	6	Overriding and Overloading			MF, H, P		
	S5	7-8	I/O			H, P		
	S6	9-10	Threads	MF, H				
	S7	11	AWT framework, 2D graphics				MF, H	
	S8	12	Swing framework, Drag & Drop					MF, H
	S9	13	Case study: Browser; Design by abstraction					MF, P
S10	14	Design patterns			MF, H			
<b>Assessment Methods and Weights</b>	<b>No</b>	<b>Type</b>	<b>Weight</b>	<b>Implementation Rule</b>			<b>Make-up Rule</b>	
	MF	Midterm, Final	60%	It is allowed to have an A4 size handwritten cheat sheet in the exams. Any kind of calculators or communication devices are not allowed.			Marmara University regulations will be followed for make-up exams.	
	P	Project	15%	1 project is assigned. The due date for project is 4 weeks after the assignment.			-	
	H	Homeworks	25%	A total of 10 homeworks are assigned. The due date for homeworks is 1 week after the assignment.			The average of higher 8 grades is taken as the overall homework grade.	
	TOTAL		100%					

<b>Determining Letter Grades</b>	<ul style="list-style-type: none"> <li>The letter grades will be determined based on the midterm and final exams, quizzes and homeworks.</li> <li>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.</li> <li>The final exam score and the total average score of the student must be at least 35 to pass the course.</li> <li>According to Marmara University Undergraduate regulations, the weight of the final exam must be at least 40 out of 100.</li> </ul>					
	Assessment	Midterm	Project	Homeworks	Final	TOTAL
	Weight	20	15	25	40	100
<b>Teaching Method, Student Work Load</b>	<b>Time Applied by the Instructor</b>					
	<b>No</b>	<b>Method</b>	<b>Explanation</b>			<b>Hours</b>
	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.			2
	7	Final	Final exam is given during the final exam week.			2
	<b>Estimated Time to be Allocated by a Student</b>					
	8	Project	The students carry out research about the problem given in the project, design and implement their solution and prepare a report.			1x30=30
	9	Homeworks	The students solve the problems given as homework.			10x2=20
	10	Pre-class learning of Course Material	The students study and learn the new subjects from course materials.			14
	11	Review of Course Material	Students review the course subjects from course materials to prepare for the exams and homeworks.			14
12	Office Hour	Students ask questions to the instructor or the assistant during office hours.			2	
<b>Total</b>					<b>126</b>	
<b>Academic Honesty</b>	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.					