



MARMARA UNIVERSITY - FACULTY OF ENGINEERING

2017-2018 Fall

CSE4085 Human Computer Interaction

COURSE DESCRIPTION FORM

Offering Department	Department of Computer Engineering		Technical Elective					
Course Code	CSE4085							
Course Name	Human Computer Interaction							
Language of Instruction	English							
ECTS	5							
Contact Hours	Theoretical (T): 3		Practice (P): 0		Laboratory (L):0			
Pre-requisites	-							
Instructor	Name							
	E-mail							
Course Materials	Mandatory		The Handbook of Formal Methods in Human-Computer Interaction , Editors: Weyers, B., Bowen, J., Dix, A., Palanque, P., Springer, 2017.					
	Recommended		Human-Computer Interaction (3rd Edition) , Alan Dix, Janet E. Finlay, Gregory D. Abowd Russell Beale, Pearson, 2003.					
			Designing with the Mind in Mind: Simple Guide to Understanding User Interface Design Rules , Jeff Johnson, Morgan Kaufman, 2010.					
Course Objectives	To teach the fundamentals of human-computer interaction methods. To design goal specific human-computer interaction and apply them to various areas.							
Course Content	Principles of human-computer interaction; methods of human-computer interaction (inputs, search, filtering, gestures); design of human-computer interaction (need analysis, prototyping, experiment design and feedback, evaluation and improvement); applications of human-computer interaction (social computing; crowd resources); contemporary research areas in human-computer interaction (virtual reality; wearable devices; robotics; big data)							
Learning Outcomes	LO1	Explain the basic principles of human-computer interaction.						
	LO2	Explain the basic steps of user-oriented interaction design such as need analysis, prototyping, evaluation and improvement.						
	LO3	Explain the application areas of human-computer interaction.						
	LO4	Design efficient interaction to serve different goals (usability, research, change etc.)						
	LO5	Explain contemporary research and development areas in human-computer interaction (virtual reality; augmented reality; wearable devices; robotics).						
Program Outcomes			LO1	LO2	LO3	LO4	LO5	
PO2	Ability to identify, formulate, and solve complex engineering problems (a); ability to select and apply proper analysis and modelling methods for this purpose (b).		b		a		b	
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).			a		a,b		
PO4	Ability to devise (a), select, and use (b) modern techniques and tools needed for engineering practice (1); ability to employ information technologies effectively (2).					1a		
Subjects (Knowledge, Skills and Behaviours), Contributions of Subjects to Learning Outcomes, Assessment Methods	No	Week	Subjects	LO1	LO2	LO3	LO4	LO5
	S1	1-2	Introduction: prototyping, design evaluation, evaluating the alternatives.	MF				
	S2	3-4	Principles of human-computer interaction	MF				
	S3	4-5	Methods of human-computer interaction: modelling the inputs, efficient search and filtering methods, interfaces that use gestures.	MF				
	S4	7-8	Design of human-computer interaction methods: direct manipulation, mental models, distribution of conception, evaluation methods (t-test, ANOVA)		MF		MF, P	
	S5	9-10	Applications of human-computer interaction: Social computing; collaboration using computers; crowdsourcing			MF,P		
S6	11-12	Research areas in human-computer interaction: virtual reality, augmented reality, wearable devices, robotics , big data					MF,P	

	S7	13-14	Course projects							
Assessment Methods and Weights	No	Type	Weight	Implementation Rule		Make-up Rule				
	MF	Midterm, Final	70%	There will be a midterm exam and a final exam. Exams will be closed books and notes. Calculators are allowed.		Marmara University regulations will be followed for make-up exams.				
	P	Project	30%	A design project is implemented in one of the application or research areas of human-computer interaction.						
	TOTAL		100%							
Determining Letter Grades	<ul style="list-style-type: none"> The letter grades will be determined based on the midterm and final exams and project. 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. 									
	Assessment		Midterm	Project	Final	TOTAL				
	Weight		30	30	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.						2	
	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.						40	
	9	Homeworks	The students solve the problems given as homework.							
	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.						35		
12	Office Hour	Students ask questions to the instructor or the assistant during office hours.						2		
Total								123		
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.									