TED UNIVERSITY, COURSE SYLLABUS

Faculty	Engineering	**Department**	Computer Engineering (CMPE)

Course Code & Number	CMPE 467	**Course Title**	Human-Computer Interaction
Type of Course	☐ Compulsory ☑ Elective	**Semester**	2020-2021 ☑ Fall ☐Spring ☐ Summer
Course Credit Hours	(3+0+0) 3	**Number of ECTS Credits**	5
Pre-requisite	N/A	**Co-requisite**	N/A
Mode of Delivery	☑ Face-to-face ☐ Distance learning	**Language of Instruction**	☑ English ☐ Turkish
Course Coordinator	Prof. Tolga Çapın	**Course Lecturer(s)**	Prof. Tolga Çapın
Required Reading	MIT 6.831 Course Notes. Articles will be provided as reading material.	**Recommended Reading**	David R. Benyon, Designing Interactive Systems – A Comprehensive Guide to HCI, UX and Interaction Design (2019). Rogers, Sharp, Preece, Interaction Design: Beyond Human-Computer Interaction, 4th Edition (2015)

Course Catalog Description	Foundations of human-computer interaction. Human performance models. Human-centered software evaluation. Human-centered software development. Graphical user-interface design. Human-computer interaction aspects of multimedia systems. Human-computer interaction aspects of collaboration and communication.
Course Objectives	The course is designed to introduce graduate students, with background in engineering and science fields, to principles of human-computer interaction (HCI), an interdisciplinary area concerned with the study of the interaction between humans and interactive computing systems.
Course Learning Outcomes	Upon successful completion of this course, students will be able to 1. Understand (C) the principles underlying human-computer interaction and human-centered software development, and evaluate (E) research output in the HCI field. 2. Convert (C) the verbal description of user needs into the language of human-computer interaction, sketch (A) a user interface, develop a computer program (A) to evaluate (E) it in terms of usability.

	3. Recognize (C) the user interface toolkits and use (A) them for implementing interactive programs. 4. Recognize (C) the human-computer interaction aspects of multimedia systems, and human-computer interaction aspects of collaboration and communication. (C) Comprehension, (A) Application, (N) Analyze, (E) Evaluate.
Course Contents	Usability. User Centered Design. User/Task Analysis. Sketching/prototyping user interfaces. Interaction styles. Direct Manipulation. Graphical design. Predictive evaluation. KLM. Fitts' Law. Heuristic Evaluation. UI software architecture. UI Design Patterns. Thread for UI programming.

Teaching Methods & Learning Activities	☑ Telling/Explaining ☑ Discussions/Debates ☐ Questioning ☑ Reading ☐ Peer Teaching ☐ Scaffolding/Coaching ☐ Demonstrating ☑ Problem Solving ☐ Inquiry ☑ Collaborating ☐ Think-Pair-Share ☐ Predict-Observe-Explain ☐ Microteaching ☑ Case Study/Scenario Analysis	☐ Simulations & Games ☐ Video Presentations ☑ Oral Presentations/Reports ☐ Concept Mapping ☐ Brainstorming ☐ Drama/Role Playing ☐ Seminars ☐ Field Trips ☐ Guest Speakers ☑ Hands-on Activities ☐ Service Learning ☐ Web Searching ☐ Experiments ☑ Other(s): Group Project
Assessment Methods (Formal & Informal)	☑ Test/Exam ☑ Quiz/Homework ☐ Oral Questioning ☑ Performance Project ☐ Written ☐ Oral	☐ Observation ☐ Self-evaluation ☐ Peer Evaluation ☐ Portfolio ☑ Presentation (Oral, Poster) ☑ Other(s): …..Team Project……..

Student Workload (Total 182 Hrs)	☑ Lectures .....**42**.. hrs ☑ Course Readings .....**10**.. hrs ☐ Workshop ..... hrs ☐ Online Discussion ..... hrs ☐ Debate ..... hrs ☐ Work Placement ..... hrs ☐ Field Trips/Visits ..... hrs ☐ Observation ..... hrs ☐ Lab Applications ..... hrs ☐ Hands-on Work ..... hrs ☑ Quizzes and Homeworks.....**50**.. hrs ☐ Midterm I..... hrs ☐ Midterm II..... hrs ☑ Final.....**25**.. hrs	☐ Resource Review ..... hrs ☐ Research Review ..... hrs ☐ Report on a Topic ..... hrs ☐ Case Study Analysis ..... hrs ☑ Oral Presentation .....**5**... hrs ☐ Poster Presentation ..... hrs ☐ Demonstration ..... hrs ☐ Web Designs ..... hrs ☐ Mock Designs ..... hrs ☐ Team Meetings..... hrs ☑ Other ...Group Project .....**50**... hrs

COURSE ASSIGNMENTS
A. Final Exam [30%]
written exam, during finals week
B. Group Project [30%]
semester-long group project (iterative design)
C. Homeworks / Programming Homeworks [20%]
3 x programming homeworks **1 x written homework**
D. Mini-Exams / Quizzes [20%]
5 x quizzes

TENTATIVE COURSE OUTLINE

W	Day	Topics	Readings	Assignments
1	05.10-11.10	Introduction, Usability, User-Centered Design		
2	12.10-18.10	User Experience, User Analysis		Homework 1 (Usability) Project Stage 1: User Analysis
3	19.10-25.10	Task Analysis		Programming Homework 1
4	26.10-01.11	Sketching, prototyping		Project Stage 2: User Analysis
5	02.11-08.11	Interaction Styles, Direct Manipulation		Programming Homework 2
6	09.11-15.11	Prototyping, Low-Fidelity Prototyping		Project Stage 3: Lo-fi Prototype

7	16.11-22.11	Graphical Design, Menu Design		Programming Homework 3
8	23.11-29.11	Project Stage 3 Presentations, User Evaluation		Project Stage 4: Formative Eval.
9	30.11-06.12	Predictive Evaluation: KLM, Fitts' Law		
10	07.12-13.12	Expert Evaluation: Heuristic Evaluation		Project Stage 5: Heuristic Eval.
11	14.12-20.12	UI Software Architecture, Toolkits		
12	21.12-27.12	User Input/Output Programming Models		Project Stage 6: Interactive Prototype
13	28.12-03.01	Design Patterns for UIs		
14	04.01-10.01	Threads for UI Programming		Project Stage 7: Final Demonstration
	11.01-17.01	**FINAL EXAMS WEEK**		

COURSE ASSESSMENTS & LEARNING OUTCOMES MATRIX	
Assessment Methods	**Course Learning Outcomes**
Homework Assignments	LO2, LO3
Project	LO1, LO2, LO3
Quiz 1-5	LO1, LO2, LO3, LO4
Final Exam	LO1, LO2, LO3, LO4

Prepared By & Date	Prof. Dr. Tolga Çapın 01/10/2020	**Revision Date**	01/10/2020