SHAMOON COLLEGE OF ENGINEERING

COURSE SYLLABUS

Human-Computer Interaction

5020231

COURSE DETAILS

Campus:	Ashdod	**Academic year:**	2021-2022
Department:	Industrial Engineering and Management	Type of Course:	Required
Discipline:	Information Systems	Level of Course:	Undergraduate
Year of Study:	Fourth	Mode of Delivery:	Face to face
Semester:	A	Prerequisites:	
Credit:	3	Co-Requisites:	Human Engineering 5001051 Visual programming and Internet 5001150
ECTS Credit Points:	4.5	Language of Instruction:	English
		Work Placement(s):	
Lecturer(s):	Katz Adi *AdiS@sce.ac.il*	Teaching Assistant(s):	

AIM

To familiarize students with the wide variety of aspects that should impact the design of interactive computer systems their reception by end users.

LEARNING OUTCOMES

On successful completion of the course, the students will be able to:

1. Apply basic terms in interface design, such as usability, usefulness and usefulness.
2. Describe main theories and important models in the world of human-computer interaction, including design rules and principles.
3. Explain human cognitive limitations in order to design systems in the spirit of cognitive engineering.
4. Evaluate existing interfaces in light of design rules and principles and in terms of Nielsen's usability heuristics.
5. Design and apply interfaces using Nielsen's usability principles and heuristics.
6. Analyze end-users' characteristics and relevant user tasks, while focusing on user-centered design (UCD).
7. Design tailored, usable interfaces that fit end users and their tasks.
8. Design a context-appropriate interface with a user experience (UX), emphasizing emotional design (including a suitable microcopy).
9. Implement interface design methods, according to the UCD approach, such as: persona design, usage scenarios, questionnaires, interviews, and observations.

COURSE CONTENTS

Week	Subject	Relevant Reading
1	Introduction to the field of interface design and human-computer interaction	[1] chapter 1
2	Interaction styles and interface development - command interfaces (CUI) and graphical interfaces (GUI)	[1] chapter 3
3	Interaction styles and interface development - graphical interfaces (GUI) and natural interfaces (NUI)	[1] chapter 3
4	Usability	[1] chapter 8; [2] chapters 2,4
5	Usability	[1] chapter 8; [2] chapter 5
6	Cognitive engineering - models and theories	[1] chapter 5
7	Cognitive engineering - models and theories	[1] chapter 5
8	Cognitive engineering - models and theories	[1] chapter 5
9	Approaches for the analysis and evaluation of interfaces	[1] chapter 7
10	Approaches for the analysis and evaluation of interfaces	[1] chapter 7
11	Metaphorical interface design	[1] chapter 8
12	Aesthetics, emotional design, and persuasive design	[1] chapter 6
13	Summary and review	

RECOMMENDED OR REQUIRED READING

Text book:

1. Te'eni, D., Carey, J. M., & Zhang, P. (2005). Human-Computer Interaction: Developing Effective Organizational Information Systems. Toronto: John Wiley & Sons.

Other readings:

2. Nielsen, J. (1994). Usability Engineering. New York: Elsevier

3. Krug, S. (2014). Don't Make Me Think, Revisited: A Common Sense Approach to Web Usability. 3rd Ed. Indianapolis: New Riders Publishing.

PLANNED LEARNING ACTIVITIES AND TEACHING METHODS

Three hours a week of frontal lectures. During work on the Project, students will receive guidance and instruction. The submission of both stages of the Course Project will be done in teams of 2-3 students. This Project is supposed to apply all the material learned during the Course, as well as from additional scientific articles in the field, chosen and read by the students that integrate the Course's subject-matter on the design of an interactive system.

ASSESSMENT METHODS AND CRITERIA

Criterion	Percentage	Comments
Final Exam:	20%	The condition for the weighting of the Project grade is a score of 51 or more on the exam; otherwise, the exam score becomes the final grade in the course.
Project:	80%	Project assignments are done in pairs or threesomes for both parts to be submitted. The weight of each part is 40%.
Bonus:		A 3-point bonus in the final score will be given to anyone who participates in the usability lab experiment.