Course Specification

(Bachelor)

Course Title: Human Computer Interaction

Course Code: 353CCS-3

Program: Bachelor of Science in Computer Science

Department: Department of Computer Science

College: Computer Science and Information Systems

Institution: Najran University

Version: 2.0

Last Revision Date: August 2022

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours: (3)

3 (2, 2, 1) [Theory, Lab, Tutorial]

2. Course type

A.	☐University	☐College	☒ Department	☐Track	☐Others
B.	☒ Required			☐Elective	

3. Level/year at which this course is offered: (Level 6/Year 3)

4. Course General Description:

Study of theoretical concepts of human-computer interaction (HCI), design principles for graphical computer interfaces, dimensions and multi-disciplinary nature of human-computer interaction, user interface design, user requirements analysis, user modelling, task analysis, general principles in user interface design, principles, rules and models in human-centred design, design guidelines, standards and style guides, dialogue styles, ergonomics and human factors, usability, toolkits, development environments and user interface management systems, formative and summative evaluation, user interfaces for the web, enhanced human-computer interaction, and advanced issues in human-computer interaction.

5. Pre-requirements for this course (if any):

None

6. Co-requisites for this course (if any):

None

7. Course Main Objective(s):

Upon the successful completion of this course, students will be able to:
- Define the theory of basic concepts of human-computer interaction that concern human cognition, interfaces and interaction.
- Describe basic task analysis (why task analysis is at the heart of nearly all HCI activities, using task analysis in computing-related) and the rules and models of the human-centred design in interactive software applications.
- Analyze the general features of the graphical user

- interface from a usability point of view
- Design good user interfaces which are applicable to different user types.
- Evaluate the environment and user interface management system
- Determine the usability problems through the development of a model and graphical user interface and evaluate using a questionnaire.
- Develop the GUI programming techniques to solve Windows-based applications or real-world problems.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	75	100%
2	E-learning		
3	Hybrid • Traditional classroom • E-learning		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	30
2.	Laboratory/Studio	30
3.	Field	
4.	Tutorial	15
5.	Others (specify)	
Total		75

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Define the theory of basic concepts of human-computer interaction that concern	K_1	Interactive Lectures, Group Discussions	Mid Exam

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
	human cognition, interfaces and interaction.			
1.2	Describe basic task analysis (why task analysis is at the heart of nearly all HCI activities, using task analysis in computing-related) and the rules and models of the human-centred design in interactive software applications.	K_1	Interactive Lectures, Group Discussions	Mid Exam, Assignment 1
1.3	Determine the usability problems through the development of a model and graphical user interface and evaluate using a questionnaire.	K_2, K_3	Lectures, Lab Demonstrations	Mid Exam Final Lab Exam, Final Exam, Lab activities
2.0	**Skills**			
2.1	Analyze the general features of the graphical user interface from a usability point of view	S_1, S_4	Lectures, Lab Demonstrations, Group Discussions	Mid Exam, Final Lab Exam, Final Exam, Assignment 2
2.2	Design good user interfaces which are applicable to different user types.	S_1, S_2, S_5	Lectures, Lab Demonstrations	Mid Exam, Final Lab Exam, Final Exam, lab activities
2.3	Evaluate the environment and user interface management system	S_2	Lectures, Lab Demonstrations	Final Lab Exam, Final Exam
2.4	Develop the GUI programming techniques to solve Windows-based applications or rea-word problems.	S_2, S_5	Lectures, Group Discussions	Final Exam
3.0	**Values, autonomy, and responsibility**			
3.1				
3.2				

C. Course Content

No	List of Topics	Contact Hours

1.	Theoretical concepts of human-computer interaction (HCI).	5
2.	Task analysis	5
3.	Ergonomics and human factors	5
4.	human-centred Design	10
5.	General Principles in interface design	5
6.	Development environments and user interface management systems, formative and summative evaluation	10
7.	Design guidelines, standards and style guides, dialogue styles, and	5
8.	Usability: Principles, Evaluation	5
9.	Usability Test Process, Web interfaces	10
10.	Theoretical concepts of human-computer interaction (HCI).	5
11.	Task analysis	5
12.	Ergonomics and human factors	5
Total		**75**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Activity 1	3rd week	3%
2.	Theory Assignment 1	5th week	5%
3.	Activity 2	6th week	2%
4.	Midterm exam	7th week	20%
5.	Activity 3	8th week	2%
6.	Assignment 2	9th week	5%
7.	Project	10th week	10%
8.	Activity 4	11th week	3%
9.	Final Lab Exam		10%
10.	Final Theory Exam		40%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	1. HUMAN-COMPUTER INTERACTION, ALAN DIX, JANET FINLAY, GREGORY D. ABOWD, RUSSELL BEALE; 3RD EDITION, PEARSON. PRENTICE HALL
Supportive References	1. Human-Computer Interaction, Panayiotis Zaphiris, Chee Siang Ang, Information Science Reference 2. Diaper, Stanton, The Handbook Of Task Analysis For Human-Computer Interaction 3. Martin G. Helander, Thomas K. Landauer, Prasad V. Prabhu, Elsevier Handbook Of Human-Computer Interaction Elsevier
Electronic Materials	1. Microsoft Visual Studio
Other Learning Materials	

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	● Lecture Rooms with an appropriate number of seats, and a whiteboard or a smart board. ● All the computers in all the laboratories should be installed with the latest version of the required software.
Technology equipment (projector, smart board, software)	● One PC and one projector and data show in the lecture room ● Number of PCs according to the strength of students in the lab room
Other equipment (depending on the nature of the specialty)	● Microsoft Visual Studio

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Collecting students' suggestions to facilitate more during the class.	Students	Verbal discussion
Student's questionnaire once during the semester about course learning outcomes.	Students	Indirect Survey
Achievement percentage of course learning outcomes, direct evaluation using CLO assessment sheet	Course Instructor	Direct evaluation using CLO achievement calculation
Teaching strategies	Quality unit	Indirect

Assessment Areas/Issues	Assessor	Assessment Methods
Assessment methods	Quality unit	Indirect
Instructor performance	Quality unit	Indirect
Course content	Quality unit	Indirect

Assessors (Students, Faculty, Program Leaders, Peer Reviewers, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	Computer Science Departmental Council
REFERENCE NO.	14440203-0185-00002
DATE	1st Sep, 2022