



Course Specifications

Course Title:	Human Computer Interaction
Course Code:	515PMAI-3
Program:	Professional Master of Artificial Intelligence (PMAI)
Department:	Computer Science
College:	Computer Science and information systems
Institution:	Najran University

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A. Course Identification

1. Credit hours: 3
2. Course type
a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b. Required <input type="checkbox"/> Elective <input checked="" type="checkbox"/>
3. Level/year at which this course is offered: Year 1 / Level 3
4. Pre-requisites for this course (if any): None
5. Co-requisites for this course (if any): NA

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	50	100%
2	Blended		
3	E-learning		
4	Distance learning		
5	Other		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	30
2	Laboratory/Studio	20
3	Tutorial	
4	Others (specify)	
	Total	50
1	Study	
2	Assignments	
3	Library	
4	Projects/Research Essays/Theses	
5	Others (specify)	
	Total	

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

This course covers the principles of human-computer interaction and the design and evaluation of user interfaces. Topics include an overview of human information processing subsystems (perception, memory, attention, and problem solving); how the properties of these systems affect the design of user interfaces; the principles, guidelines, and specification languages for designing good user interfaces, with emphasis on tool kits and libraries of standard 3D graphical user interface objects; and a variety of interface evaluation methodologies that can be used to measure the usability of software. Other topics may include World Wide Web design principles and tools, computer-supported cooperative work, multimodal and "next generation" interfaces, speech and natural language interfaces, and virtual reality interfaces. Course work includes both the creation and implementation of original user interface designs, and the evaluation of user interfaces created by others.

2. Course Main Objective

CLO_1: Define the theory of basic concepts of human computer interaction that concern human cognition, interfaces and interaction.

CLO_2: Describe basic task analysis (why task analysis is at the heart of nearly all HCI activities, using of task analysis in computing-related) and the rules and models of the human centered design in interactive software applications.

CLO_3: Analyze the general features of the graphical user interface from usability point of view

CLO_4: Design good user interfaces which are applicable to different user types.

CLO_5: Evaluate the environment and user interface management system

CLO_6: Determine the usability problems through the development of a model and graphical user interface and to evaluate using a questionnaire.

CLO_7: Develop the GUI programming techniques to solve windows-based applications or real-word problems.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge and Understanding	
1.1	Define the theory of basic concepts of human computer interaction that concern human cognition, interfaces and interaction.	K ₁
1.2	Describe basic task analysis (why task analysis is at the heart of nearly all HCI activities, using of task analysis in computing-related) and the rules and models of the human centered design in interactive software applications.	K ₁
1.3	Determine the usability problems through the development of a model and graphical user interface and to evaluate using a questionnaire.	K ₂
1...		
2	Skills	
2.1	Analyze the general features of the graphical user interface from usability point of view	S ₁ , S ₄
2.2	Design good user interfaces which are applicable to different user types.	S ₁ , S ₂ , S ₄
2.3	Evaluate the environment and user interface management system	S ₂
2.4	Develop the GUI programming techniques to solve windows-based applications or rea-word problems.	S ₂ , S ₄

CLOs		Aligned PLOs
2.5		
3	Competences:	
3.1	Communicate clearly and effectively using the technical language of the field	C2
3.2		
3.3		
3...		

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 Centered Design	5
5	General Principles in interface design	5
6	Development environments and user interface management systems, formative and summative evaluation	5
7	Design guidelines, standards and style guides, dialogue styles, and	5
8	Usability: Principles, Evaluation	5
9	Usability Test Process, Web interfaces	5
10	Theoretical concepts of human-computer interaction (HCI).	5
11	Task analysis	5
12	Ergonomics and human factors	5
13		
Total		50

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge and Understanding		
1.1	Define the theory of basic concepts of human computer interaction that concern human cognition, interfaces and interaction.	<ul style="list-style-type: none"> Giving Lectures in PPT, recalling the lecture through asking Questions. Clarifying doubts on Lecture. Discussions of real life problems, among teacher, students 	Quiz Theory Assignments Midterm Examination Final Examination
1.2	Describe basic task analysis (why task analysis is at the heart of nearly all HCI activities, using of task analysis in computing-related) and the rules and models of the human centered design in interactive software applications.		
1.3	Determine the usability problems through the development of a model		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	and graphical user interface and to evaluate using a questionnaire.		
2.0	Skills		
2.1	Analyze the general features of the graphical user interface from usability point of view	<ul style="list-style-type: none"> • Giving Lectures in PPT, recalling the lecture through asking Questions. Clarifying doubts on Lecture. • Conducting a discussion of real life problems, among teacher, students • Cooperative learning among the students. • Encourage students to browse different journals, seminars or websites at their leisure time to have a better understanding about the course 	Quiz Lab Assignments Midterm Examination Final Examination,
2.2	Design good user interfaces which are applicable to different user types.		Quiz, Theory Assignments Final Examination
2.3	Evaluate the environment and user interface management system		Midterm Examination Min-project Final Examination
2.4	Develop the GUI programming techniques to solve windows-based applications or rea-word problems.		
2.5			
3.0	Competences		
3.1	Communicate clearly and effectively using the technical language of the field		Mini-Project presentation
3.2			
...			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quiz1	3 rd week	5%
2	Midterm	6 th week	20%
3	Mini-Project	7 th week	20%
4	Lab Assignments	2 nd ,4 th ,7 th , 11 th week	10%
5	Quiz2	10 th week	5%
7	Final Exam	12 th or 13 th week	40%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

- Weekly office hours
- Pre-booked Appointments
- Additional office hours prior exams
- Weekly academic advising hours

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	<ul style="list-style-type: none"> • Human Computer Interaction, ALAN DIX, JANET FINLAY, GREGORY D. ABOWD, RUSSELL BEALE; 3RD EDITION, PEARSON. PRENTICE HALL
Essential References Materials	<ul style="list-style-type: none"> • Human Computer Interaction, Panayiotis Zaphiris, Chee Siang Ang, Information Science Reference • Diaper, Stanton, The Handbook of Task Analysis for Human Computer Interaction • Martin G. Helander, Thomas K. Landauer, Prasad V. Prabhu, Elsevier: Handbook Of Human-Computer Interaction
Electronic Materials	<ul style="list-style-type: none"> • Microsoft Visual Studio
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Room B-59 Laboratory B-113L
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show, PCs.
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	<ul style="list-style-type: none"> • Printer is important in the lab to print reports and some snapshots. • Projector and PC for the lab instructor is required • GPUs cluster

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Online course survey	Students	Indirect
course learning outcomes achievement survey	Students	Indirect
achievement of course learning outcomes	instructor	Direct

Evaluation Areas/Issues	Evaluators	Evaluation Methods

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	Computer Science Departmental Council
Reference No.	14440203-0185-00002
Date	1st Sep, 2022