Course Specification
— (Bachelor)

Course Title: Human Computer Interaction

Course Code: CS1504

Program: Computer Science

Department: Computer Science and Engineering

College: Computer Science and information technology

Institution: Al-Baha University

Version: T104- V2

Last Revision Date: October 03, 2023

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours: (3)

2. Course type

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

3. Level/year at which this course is offered: (Level 7 /3rd Year)

4. Course general Description:

This course introduces the field of human-computer interaction (HCI), an inter disciplinary field that integrates cognitive psychology, design, computer science and others. Examining the human factors associated with computer information systems provides the students with knowledge to understand what influences usability and acceptance of CS. This course will examine human performance, components of technology, methods and techniques used in design and evaluation of CS. Societal impacts of HCI such as accessibility will also be discussed. User-centered design methods will be introduced and evaluated. This course will also introduce students to the contemporary. Topics covered include interface design, usability evaluation, universal design, multimodal interfaces (touch, vision, natural language, and 3-D audio), virtual reality, and spatial displays. In addition to lectures, students will work on individual and team assignments to design, implement, and evaluate various interactive systems and user interfaces based on knowledge culled from class material and additional research.

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

None

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

None

7. Course Main Objective(s):

The main purpose for this course is to teach students how to:
- o Describe all aspects of Human-Computer Interaction
- o Explain how humans interact with technology.
- o Apply different models of user interface design at various environments.
- o Analyze the effects of emotion on user experience.
- o Implement windowing systems, applications, architectures, and frameworks.

- o Evaluate user interface designs for usability, reliability and accessibility using numbers and statistics.
- o Communicate concept sand techniques in oral presentations.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	33	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**	33
2.	**Laboratory/Studio**	
3.	**Field**	
4.	**Tutorial**	
5.	**Others (specify)**	
Total		33

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

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Describe all aspects of Human-Computer Interaction	K1	• Lectures • Assignments • Discussions	• Homework • Midterm • Quiz • Final exam
1.2	Explain how humans interact with technology	K2	• Lectures • Assignments Discussions	• Homework • Quiz • Midterm Final exam

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
2.0	**Skills**			
2.1	Apply different models of user interface design at various environments.	S1	• Demonstrations • Labs Lectures • Group Discussion • Group Projects • Case Studies	• Homework • Quiz • Midterm • Final exam
2.2	Analyze the effects of emotion on user experience.	S2	• Demonstrations • Debates/Discussions • Labs Lectures • Group Discussion • Group Projects • Case Studies • Practical Exercises	• Homework • Quiz • Midterm • Final exam
2.3	Implement windowing systems, applications, architectures, and frameworks.	S3	• Demonstrations • Debates/Discussions • Labs Lectures • Group Discussion • Group Projects • Case Studies • Practical Exercises	• Project Assessment (Rubric) • Report Assessment (Rubric)
2.4	Evaluate user interface designs for usability, reliability and accessibility using numbers and statistics.	S4	• Demonstrations • Labs Lectures • Group Discussion • Group Projects • Case Studies • Practical Exercises	• Homework • Quiz • Midterm • Final exam
2.5	Communicate concepts and techniques in oral presentations.	S5	• Slide Presentations • Multimedia Presentations • Demonstrations • Debates/Discussions • Group Projects	• Presentation Assessment (Rubric)
3.0	**Values, autonomy, and responsibility**			
3.1	Work both independently and collaboratively	V1	• Presentation • Guest Lectures • Debates/Discussions • Group Projects • Team-based Learning • Case Studies • Seminars	• Rubrics Note Cards

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to Human Computer Interaction	2
2.	CH 1: The human	2
3.	CH 2: The computer	4
4.	CH 3: Interaction	4

5.	CH4: Interaction design basics	6
6.	CH 5: Design rules	6
7.	CH 6: Evaluation techniques	3
8.	CH 7: Cognitive models	2
9.	CH 8: Task models	2
10.	Course project dissection	2
Total		**33**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Homework	Every two Weeks	10%
2.	Midterm	6	20%
3.	Quiz	10	10%
4.	Project/Report Assessment (rubric)	12	10%
5.	Final Exam	13	50%
Total			100%

*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	• Human-Computer Interaction: The Fundamentals Made Easy! Paperback – Create Space Independent Publishing Platform (January 25, 2016), ISBN-10: 1523701226 ISBN-13: 978-1523701223 • Face Detection and Gesture Recognition for Human-Computer Interaction, Author: Ming-Hsuan Yang; Narendra Ahuja Imprint: Springer , SBN: 9781461514237. December 2012, • Building Interactive Systems: Principles for Human-Computer Interaction, 1st Edition, Dan Olsen, ISBN-10: 1423902483, ISBN-9781423902485, 672 Pages Hardcover,©2010 Published by Cengage. • Human-computer interaction, 3rd Edition, Dix, A., Finlay, J., Abowd, G., & Beale, R. (2003), Prentice Hall Europe. ISBN: 0130461091
Supportive References	• ComputerScienceCurriculum2013 –http://cs2013.org • ACM(Association for Computing Machinery Curricula Recommendations-http://www.acm.org/education/curricula-Recommendations
Electronic Materials	• Hcibooks.com • ACM(Association for Computing Machinery)website-http://www.acm.org/

	• ACMSIGCSE (Special Interest Group on Computer Science Education) resource web site-http://www.sigcse.org/SIGresources • IEEE Computer Society web site -http://www.computer.org/portal/web/guest/home • Intel The Journey Inside web site (has a collection of interactive, online lessons about technology, computers, and society) • http://educate.intel.com/en/TheJourneyInside/GoogleCodeUniversityCurriculumResource website- • http://code.google.com/edu/resources/index.html
Other Learning Materials	

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	• A classroom or lecture hall with whiteboard for 25 students. • Alaboratorywith25 computers.
Technology equipment (projector, smart board, software)	• All students shall have • A digital image projection system with connection to desktop computer and laptop computer. • High speed Internet connection
Other equipment (depending on the nature of the specialty)	

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	• Students • Faculty • Peer Reviewers • Program Leader • Course Coordinator	• Surveys (indirect). • Direct feedback from students (interview between Program leader and students). • Course evaluation by Peer Reviewers (indirect). • Class visit by Program Leader • Comprehensive Course report (where we can find information about teaching difficulties and action plan, …)
Effectiveness of Students' assessment	• Students • Faculty • Peer Reviewers • Course Coordinator • Exam Evaluation Committee • Course Coordinator	• Surveys (indirect). • Direct feedback from students (interview between Program leader and students). • Assessment results (direct) • Course evaluation by Peer Reviewers (indirect). • Comprehensive Course report (where we can find information about assessment difficulties and action plan, …) • Exam evaluation by the Exam Evaluation Committee (indirect)
Quality of learning resources	• Students • Faculty • Peer Reviewers	• Surveys (indirect) • Course evaluation by Peer Reviewers (indirect).

Assessment Areas/Issues	Assessor	Assessment Methods
	• Course Coordinator	• Comprehensive Course report (where we can find information about difficulties and challenges about learning resources as well as consequences and action plan, …)
The extent to which CLOs have been achieved	• Faculty • Program Leader • Course Coordinator	• Student Results (direct) • Comprehensive Course report (where we can find the CLO assessment results)
Other	None	None

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

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	
REFERENCE NO.	
DATE	