



Course Specification

(Bachelor)

Course Title: **Human Factors in Design**

Course Code: **HCI1202**

Program: **BSc in Human Computer Interaction**

Department: **Software Engineering**

College: **College of Computing**

Institution: **Umm Al Qura University**

Version: **1.0**

Last Revision Date: **22/04/2025**



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A. General information about the course:

1. Course Identification

1. Credit hours: (4)

2. Course type

A. University College Department Track Others
 B. Required Elective

3. Level/year at which this course is offered: (1st year/ 2nd level)

4. Course General Description:

focus on integrating human capabilities and limitations into the design process to enhance usability, safety, and user satisfaction.

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

None

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

None

7. Course Main Objective(s):

- Studying human perceptual, cognitive, and physical capabilities to inform design decisions.
- Utilizing theories from human factors, cognitive science, and social science to comprehend and design human interactions with technology and built environments.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	60	100%
2	E-learning		
3	Hybrid <ul style="list-style-type: none"> • Traditional classroom • E-learning 		
4	Distance learning		



3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	60
2.	Laboratory/Studio	
3.	Field	
4.	Tutorial	
5.	Others (specify)	
Total		٦٠

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	Demonstrate foundational knowledge of human factors and ergonomics, including core HCI theories, models, and design principles, and explain their relevance in creating user-centered technologies.	K1	Lectures, discussions	Assignment, Quizzes and Final Exam
2.0	Skills			
2.1	Identify and evaluate the psychological, physical, and social factors that impact user interaction with technology, applying these insights to system design.	S2	Lectures, discussions	Assignment, Quizzes and Final Exam
	Conduct ergonomic assessments and usability evaluations to improve the design of interfaces, products, and systems.	S4	Lectures, discussions	Assignment, Quizzes and Final Exam
3.0	Values, autonomy, and responsibility			
	Advocate for inclusivity by designing equitable and accessible technology solutions that accommodate diverse user needs and abilities	V2	Lectures, discussions	Assignment, Quizzes and Final Exam
	Promote ethical responsibility by considering the societal and cultural	V5	Lectures, discussions	Assignment, Quizzes and Final Exam

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
	impacts of design decisions in human-centered technologies.			

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to Human Factors and Ergonomics	4
2.	Human Capabilities and Limitations	4
3.	Design Principles for Usability	4
4.	Visual and Auditory Perception in Design	4
5.	Cognitive Workload and Human Error	4
6.	Task Analysis and Design Process	4
7.	Physical Ergonomics in Product Design	4
8.	Human-Machine Interaction (HMI)	4
9.	Evaluation Methods in Human Factors	4
10.	Designing for Diverse User Populations	4
11.	Teamwork and Collaboration in Design	4
12.	Safety and Risk Management in Design	4
13.	Application Areas in Human Factors	4
14.	Ethical Considerations in Human Factors Design	4
15.	Future Trends in Human Factors	4
Total		60

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quizzes	3-14	20
2.	Assignments	3-14	20
3.	Midterm	7-8	20
4.	Final Exam	16-17	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	Stone, N.J., Chaparro, A., Keebler, J.R., Chaparro, B.S., & McConnell, D.S. (2024). Introduction to Human Factors: Applying Psychology to Design, 2nd Edition (2nd ed.). CRC Press. https://doi.org/10.1201/9781003515463
Supportive References	
Electronic Materials	
Other Learning Materials	

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Traditional Classroom
Technology equipment (projector, smart board, software)	Multimedia Projector
Other equipment (depending on the nature of the specialty)	

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Direct: Survey at the end of the course
Effectiveness of Students assessment	Instructor and quality assurance committee	Indirect: Course Report
Quality of learning resources	Instructor and quality assurance committee	Direct: Survey at the end of the course
The extent to which CLOs have been achieved	Instructor and quality assurance committee	Indirect: Course Report
Other		

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

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	SOFTWARE ENGINEERING DEPARTMENT COUNCIL
REFERENCE NO.	THE 17TH MEETING FOR THE ACADEMIC YEAR 1446H
DATE	22/04/2025

