Course Specification
(Bachelor)

Course Title:	Usability Evaluation
Course Code:	HCI3205
Program:	BSc in Human Computer Interaction
Department:	Software Engineering
College:	Computing
Institution:	Umm Al Qura University
Version:	1.0
Last Revision Date:	22/04/2025

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: (3rd year/ 6th level)					
4. Course General Description:					
This course introduces students to the essential principles, methods, and practices involved in usability evaluation—the process of assessing the effectiveness, efficiency, and satisfaction of a product or system from the perspective of its users. Students will explore a variety of usability evaluation techniques, including usability testing, heuristic evaluation, cognitive walkthroughs, and task analysis. The course emphasizes both qualitative and quantitative evaluation methods, equipping students with the skills needed to assess and enhance the usability of digital products, websites, and applications. Students will also gain insights into integrating usability evaluations into iterative design processes like Agile and Lean UX					
5. Pre-requirements for this course (if any)**:**					
HCI3301 - Prototyping Methods					
6. Co-requisites for this course (if any)**:**					
None					
7. Course Main Objective(s):					
• Understand and Apply Usability Evaluation Methods • Analyze and Synthesize Usability Data • Communicate Usability Evaluation Findings and Recommendations					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	60	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	
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 knowledge of a broad range of evaluation methods for digital technologies in terms of their strengths and limitations	K2	Lectures, discussions, project	Exams/project
2.0	**Skills**			
2.1	Conduct an effective usability evaluation	S1	Labs, project	Assignments, project
2.2	Interpret and analyze evaluation data	S2	Lectures, discussions, project	Exams, Assignments, project
2.3	Report usability evaluation findings and recommendations to improve future design	S4	Lectures, discussions, project	Exams, Assignments, project

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
3.0	**Values, autonomy, and responsibility**			
3.1	To work effectively and collaboratively in a teamwork setting.	V2	Project	Project
3.2	To understand the designer's ethical responsibility when interacting with users.	V5	Lectures, discussions, project	Exams/Project

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to Usability and Usability Evaluation What is Usability? Definition, importance, and the benefits of usability in the design process. Usability vs. User Experience (UX): Understanding the difference and overlap. The Usability Evaluation Process: Overview of the steps involved in conducting usability evaluation (planning, testing, analysis, and reporting). Types of Usability Evaluations: Formative vs. summative evaluations.	5
2.	Usability Goals and Metrics Usability Goals: Efficiency, effectiveness, satisfaction, and accessibility. Common Usability Metrics: Task success rate, time on task, error rate, user satisfaction (e.g., SUS - System Usability Scale). Quantitative vs. Qualitative Metrics: How to measure usability using both data types.	5
3.	Planning a Usability Evaluation Creating a Usability Test Plan: Defining objectives, tasks, user profiles, and setting success criteria. Recruiting Users: Identifying the right participants, including considerations for demographic diversity. Selecting Usability Evaluation Methods: Choosing the best method based on context (e.g., remote testing, in-person, or moderated).	5
4.	Usability Testing Methods (I): Think-Aloud Protocol and Task-Based Testing Think-Aloud Protocol: How users verbalize their thoughts while performing tasks.	5

	Task-Based Usability Testing: Developing realistic tasks for participants to complete. Moderated vs. Unmoderated Testing: Pros and cons.	
5.	Usability Testing Methods (II): Remote Testing and A/B Testing Remote Usability Testing: Advantages, tools, and techniques for conducting usability tests remotely. A/B Testing: Designing and analyzing A/B tests to evaluate two variations of a design.	5
6.	Heuristic Evaluation What is Heuristic Evaluation?: An expert-based usability evaluation method. Jakob Nielsen's 10 Usability Heuristics: Overview of principles and how to apply them in evaluating interfaces. How to Conduct Heuristic Evaluation: Identifying usability problems based on heuristics.	5
7.	Cognitive Walkthroughs and Task Analysis Cognitive Walkthroughs: Step-by-step process of evaluating the usability of a system by walking through user tasks. Task Analysis: Understanding user tasks, goals, and how the system supports them.	
8.	Analyzing Usability Test Data Analyzing Qualitative Data: Identifying key themes, problems, and patterns from user feedback. Analyzing Quantitative Data: Interpreting success rates, task completion times, and error rates. Synthesizing Data to Identify Usability Problems: Using data to inform design recommendations.	5
9.	Reporting Usability Evaluation Findings Creating a Usability Evaluation Report: Structuring the report to include objectives, methods, findings, and recommendations. Communicating Findings to Stakeholders: How to effectively present usability issues to designers, developers, and product managers. Designing Actionable Recommendations: Ensuring that findings lead to concrete design changes.	5
10.	Usability Evaluation in Agile and Iterative Design Integrating Usability Evaluation into Agile Workflows: How usability evaluations fit into iterative design processes like Agile and Scrum. Fast Feedback Loops: Conducting quick usability tests and refining designs in short cycles.	5
11.	Ethical Considerations in Usability Evaluation	5

	Ethical Principles in Usability Testing: Privacy, consent, and the protection of participant data. Minimizing Bias: How to conduct objective usability tests and avoid influencing users' behavior. Inclusive Usability Evaluation: Ensuring that tests are accessible to all user groups, including people with disabilities.	
12.	Model-Based Usability Evaluation: GOMS and Performance Prediction Overview of GOMS and cognitive modeling. Differences between GOMS and empirical methods (e.g., usability testing). Use cases for GOMS in performance prediction and task optimization.	5
Total		**60**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Assignments	3-14	10
2.	Project	3-14	30
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	Measuring the User Experience: Collecting, Analyzing, and Presenting Usability Metrics (Interactive Technologies) 2nd Edition. Bill Albert, Tom Tullis (2013) **"Usability Engineering"** by **Jakob Nielsen**
Supportive References	"A Practical Guide to Usability Testing" Author: Joseph S. Dumas and Janice C. Redish **"Rocket Surgery Made Easy"** by **Steve Krug**
Electronic Materials	
Other Learning Materials	

You do not need to fill this page

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**