هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission
اعتماد
NCAAA
2024
TP-153

Course Specification

(Bachelor)

Course Title:	Game Architecture and Design
Course Code:	HCI4805
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) or (4th year/8th level)					
4. Course General Description:					
This course combines theoretical and practical learning to introduce the principles of game design and development. Students will explore game mechanics, prototyping, playtesting, iterative design, and team collaboration while applying these concepts in practical sessions. Using tools chosen by the instructor, students will implement their knowledge through hands-on exercises and work in teams to develop a game project, delivered at the end of the semester. The course also examines emerging trends in game technologies, such as AR/VR and AI, preparing students for careers in the evolving game industry.					
5. Pre-requirements for this course (if any)**:**					
N/A					
6. Co-requisites for this course (if any)**:**					
N/A					
7. Course Main Objective(s):					
The main objective of the course is for students to: • Understand the roles and responsibilities of a game designer. • Analyze and apply formal and dramatic elements in game design. • Develop and refine game concepts through brainstorming, prototyping, and iteration. • Implement game design principles using industry-standard tools. • Collaborate effectively in teams to create a functional game project. • Test and balance gameplay for functionality and player engagement. • Communicate game concepts through documentation and presentations. • Explore and integrate emerging trends, such as AR/VR and AI, in game design. • Deliver a complete, team-based game project by the end of the semester.					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	60	100%

No	Mode of Instruction	Contact Hours	Percentage
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		60

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	Apply foundational HCI theories and design principles to create user-centered game mechanics and interfaces that enhance player engagement and satisfaction.	K1	Lectures, discussions, case studies	Assignments/ Exams
1.2	Design and evaluate game elements that account for diverse player needs, ensuring inclusivity and accessibility in game interfaces and experiences.	K3	Lectures, case studies, Discussions	Assignments / Exams / Project
1.3	Investigate and integrate emerging technologies, such as AR/VR or procedural content generation, into game design to explore their potential in enhancing gameplay and interaction.	K5	Lectures, demonstrations, case studies	Assignments / Exams / Project
2.0	**Skills**			
2.1	Design, prototype, and test game systems and levels that meet specified functional and user	S1	Lectures, demonstrations	Assignments / Exams / Project

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
	experience requirements using iterative development methods.			
2.2	Develop and refine game prototypes through iterative design and testing, incorporating player feedback to optimize mechanics and usability.	S4	Experimentation, demonstrations, code reviews	Project
2.3	Collaborate effectively in teams to manage, design, and deliver a fully developed game project, demonstrating teamwork and project management skills.	S5	Discussions, experimentation, code reviews	Project
3.0	**Values, autonomy, and responsibility**			
3.1	Create game designs that promote inclusivity and respect for diverse cultural and individual perspectives, ensuring equitable access to gameplay experiences.	V2	Lectures, case studies, discussions	Project
3.2	Employ creativity and empathy to design games that address real-world challenges, fostering meaningful player engagement and societal impact.	V5	Lectures, case studies, discussions	Project

C. Course Content

No	List of Topics	Contact Hours
1.	The Role of the Game Designer and the Structure of Games	4
2.	Formal and Dramatic Elements in Game Design	8
3.	System Dynamics and Mechanics in Games	8
4.	Conceptualization and Generating Ideas	4
5.	Prototyping: From Paper to Digital	8
6.	Playtesting and Iterative Design	8
7.	Functionality, Completeness, and Balance	4
8.	Team Collaboration and Development Stages	4
9.	Communicating Designs and Engaging the Industry	4
10.	Emerging Trends and the Future of Game Design	8
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	**Game Design Workshop: A Playcentric Approach to Creating Innovative Games, by Tracy Fullerton (4th Edition, 2023)**
Supportive References	**Classic Game Design, by Franz Lanzinger (2019)** **Clockwork Game Design, by Keith Burgun (2015)**
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 and a computer lab with computers.
Technology equipment (projector, smart board, software)	Multimedia Projector
Other equipment (depending on the nature of the specialty)	**None**

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

Assessment Areas/Issues	Assessor	Assessment Methods
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**