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

Course Specification

(Bachelor)

Course Title:	Game Application Development
Course Code:	SE3602
Program:	BSc in Software Engineering
Department:	Software Engineering
College:	College of 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/ 5th or 6th level) or (4th year/8th level)					
4. Course General Description:					
This Game Development course course provides acomprehensive introduction to game development using gaming framework such as Unity engine. Students will delve into the fundamentals of the framework, gaining hands-on experience in designing game levels, creating captivating environments, crafting characters with animations, implementing game mechanics, and exploring advanced topics in game development.					
5. Pre-requirements for this course (if any)**:**					
SE2301 - Software Modelling and Analysis					
6. Co-requisites for this course (if any)**:**					
N/A					
7. Course Main Objective(s):					
By the end of the course, students will have the skills and knowledge needed to create their own interactive games and understand the process of publishing them.					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	60	100%
2	E-learning	0	0
3	Hybrid • Traditional classroom • E-learning	0	0
4	Distance learning	0	0

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	30
2.	**Laboratory/Studio**	30
3.	**Field**	0
4.	**Tutorial**	0
5.	**Others (specify)**	0
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	Write programs for 2D and 3D games.	K1	Lecture, exercise	Quiz, exams, assignments
1.2	Program a game for a handheld device.	K1	Lecture, exercise	Quiz, exams, assignments
2.0	**Skills**			
2.1	Debug event driven programs.	S1	Exams, assignments, project	Exams, assignments, project
3.0	**Values, autonomy, and responsibility**			
3.1	Be able to program in a professional quality game engine.	V1	Assignment, project	Assignment, project

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to Unity and Game Development Basics	**4**
2.	Game Design Principles	**8**
3.	Creating Game Levels and Environments	**4**
4.	Character Design and Animation	**4**

5.	Game Mechanics and Interactivity	4
6.	Advanced Graphics and Visual Effects	4
7.	Audio in Games	4
8.	Multiplatform Development	4
9.	Networking and Multiplayer Games	4
10.	Artificial Intelligence in Games	4
11.	Project Management in Game Development	4
12.	Monetization and Marketing	4
13.	Legal and Ethical Considerations	4
14.	Advanced Topics and Publishing	4
Total		**60**

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	**Assignments and Quizzes**	**2-14**	**15**
2.	**Projects**	**2-14**	**15**
3.	**Practical**	**2-14**	**10**
4.	**Mid Term**	**7**	**20**
5.	**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	• Doran, J. P., & Casanova, M. (2017). *Game development Patterns and best practices*. Packt Publishing Ltd. • Nystrom, R. (2014). *Game programming patterns*. Genever Benning. ISBN 978-0990582908. (gameprogrammingpatterns.com
Supportive References	
Electronic Materials	• Unity Technologies. (n.d.). *Unity Store*. Retrieved from https://store.unity.com/ • YoYo Games. (n.d.). *YoYo Games official website*. Retrieved from https://www.yoyogames.com/
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)	N/A

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Direct, Indirect
Effectiveness of Students' assessment	Faculty, Peer reviewer	Direct, Indirect
Quality of learning resources	Faculty, Course coordinator	Direct, Indirect
The extent to which CLOs have been achieved	Course coordinator, Program management committee	Direct
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**