University of Petra		جامعة البترا - ثلاثون عاما University of Petra
Faculty of Information Technology		**كلية تكنولوجيا المعلومات**
Department of Computer Science/ Virtual & Augmented Reality		**قسم الواقع الافتراضي والمعزز**

Course Syllabus

Year: 2024/2025 **Semester:(2)**

Course No.	Course Title	Prerequisite	Co-requisite	Credit Hours Lectures / Lab.	Equivalent hours in NQF	Course level according to NQF
607360	***Interactive Game Development &Programming***	607332+607325	-	***(3:3-2)***	***70***	***6***

Instructor Name	e-mail	Office No.	Office ext.	Office Hours
Dr Jamal Zraqou	Jamal.Zraqou@uop.edu.jo	7328	7328	12-1 SMT

Coordinator's Name: (if applicable)	***Dr Jamal Zraqou***

Short Course Description	This course introduces the theory and practice of designing game experiences. Students familiarize themselves with the methods, concepts, techniques, and literature used in game design.

Course Objectives

- Develop an understanding of the fundamental principles and theories of game design.
- Familiarize students with the game design process, including ideation, prototyping, playtesting, and iteration.
- Introducing students to various game design tools, software, and technologies.
- Explore different genres and types of games, analyzing their mechanics, dynamics, and aesthetics.
- Foster critical thinking and problem-solving skills by analyzing and evaluating existing games.
- Cultivate creativity and innovation in designing game mechanics, levels, and player experiences.
- Promote effective communication and collaboration skills in interdisciplinary game development teams.
- Encourage ethical considerations in game design, including inclusivity, accessibility, and responsible game mechanics.
- Provide hands-on game design project opportunities, allowing students to apply their knowledge and skills.

- Develop a portfolio of game design projects that demonstrate the student's competence and creativity in the field.

Course Intended Learning Outcomes (ILOs) and their Alignment with Program ILOs, Teaching and Learning Methods, and Assessment Methods:

Upon successful completion of this course, students are expected to achieve the following learning outcomes:

Course ILOs	Program ILOs	Teaching and Learning Method	Assessment Method
Knowledge (K)			
K1) Understand the fundamental principles and theories of game design, including mechanics, dynamics, and aesthetics.	V&AR-6.1	Interactive lectures	Mid Exam
K2) Knowledge of portfolio game design projects that demonstrates proficiency and growth in game design skills.	V&AR-6.1	Interactive lectures	Mid Exam
Intellectual Skills (I)			
I1) Recognize and evaluate different genres and types of games, including their mechanics, dynamics, and aesthetics.	V&AR-6.4	Interactive lectures	Final Exam
Practical skills (P)			
P1) Apply the game design process, including ideation, prototyping, playtesting, and iteration, to create engaging and immersive game experiences.	V&AR-6.2	Practical presentation	Homework - Rubric
Transferable Skills (T)			
T1) Demonstrate critical thinking skills by analyzing and interpreting existing games and their design choices.	1.3	Practical presentation Homework	Project - Rubric
Competencies (C)*			
Problem Solving	C1		Project rubric
Technical Proficiency	C6		Exams, HW - rubric

Course Schedule:

Week	Topic Details	Course ILO number	Reference
1	**Introduction to Game** • History and evolution of game design • Core elements of game design: mechanics, dynamics, aesthetics	K1	Chapter 1
2-3	**Game Design Process** • Ideation techniques and concept development • Prototyping methods and tools • Playtesting and iteration	K2	Chapter 1

4-5	**Game Design Tools and Technologies** • Introduction to game engines (e.g., Unity, Unreal Engine) • Game asset creation tools (e.g., Photoshop, Blender) • Basic scripting and programming concepts	P1	Chapter 2
6-7	**Game Genres and Mechanics** • Exploration of different game genres and their mechanics • Analysis of successful game mechanics and their impact on player experiences	P1	Chapter 2
8-9	**Level Design and Gameplay** • Principles of level design and player progression • Balancing difficulty and pacing in game design • Creating engaging gameplay loops and challenges	K1	Chapter 3
10-11	**Narrative and Storytelling in Games** • Techniques for integrating storytelling elements in games. • Player agency and branching narratives • Interactive storytelling techniques.	I1	Chapter 3
12-13	**Multiplayer and Social Aspects of Game Design** • Designing multiplayer experiences and cooperative gameplay • Social interaction and player communities in game design	T1	Chapter 4
14-15	**Ethics and Future Trends in Game Design** • Ethical considerations in game design, including inclusivity and accessibility • Emerging trends in game design (e.g., virtual reality, augmented reality) • Final project presentations and portfolio development	P1	Chapter 5

Assessment Methods and Grading System:

Assessment method	Grade	Comments
I. Individual Work		
Assignments	**20%**	**Lab**
Activities	**15%**	Project, Short Presentations.
Mid Exam	**25%**	Online exam.
A Comprehensive Final examination	**40%**	Online exam.
Total		
	100%	

Learning References:

1- Textbook (s):
The Art of the Game Salad: A Young Teen's Guide to Game Development Kindle Edition 2022.
2- References:
1. Fullerton, T., Swain, C., & Hoffman, S. (2018). Game Design Workshop: A Playcentric Approach to Creating Innovative Games. CRC Press. 2. Salen, K., & Zimmerman, E. (2004). Rules of Play: Game Design Fundamentals. The MIT Press. 3. Koster, R. (2013). A Theory of Fun for Game Design. O'Reilly Media. 4. Rogers, S. (2015). Level Up! The Guide to Great Video Game Design. Wiley.
3- Other Resources:
Lectures Notes

Requirements of the Course

- Skills in programming, designing and rigging.

Course Policies[1]

- Attendance Policy: University regulations apply to attendance.
- Academic Honesty: Academic dishonesty is an unacceptable mode of conduct, and will not be tolerated in any form at University of Petra. All persons involved in academic dishonesty and plagiarism in any form will be disciplined in accordance with University rules and regulations.

Approved by	Name	Date	Signature
Coordinator of Curriculum Committee			
Faculty Dean/ Head of Department			

[1] Additional information may be added in this section according to the nature of the course.