



National Computing Education Accreditation Council
NCEAC



NCEAC.DOC.001-E

COURSE DESCRIPTION

NAME OF INSTITUTION	Lahore Garrison University
PROGRAM (S) TO BE EVALUATED	Computer Science , Fall 2022

Course Description :

Course Code	CSC378								
Course Title	Game Design and Development								
Credit Hours	3								
Prerequisites by Course(s) and Topics									
Assessment Instruments with Weights (homework, quizzes, midterms, final, programming assignments, lab work, etc.)	SESSIONAL (Quizzes, Assignments, Presentations) =25 % Midterm Exam =25 % Final Exam = 50%								
Course Coordinator	Waseem Akram								
URL (if any)									
Current Catalog Description									
Textbook (or Laboratory Manual for Laboratory Courses)	Introduction to Game Development Edited by Steve Rabin								
Reference Material	https://www.programiz.com/csharp-programming https://www.tutorialspoint.com/csharp/index.htm https://unity3d.com/learn/tutorials								
Course Goals	This course introduces the basic concepts and development of games professionally. The course emphasizes on C# language which is used in Unity tool to develop games 2D/3D. The students work on Buildbox as well as unity tool. The students learn different techniques develop and design games.								
Course Learning Outcomes (CLOs):	<table><tr><td>At the end of the course the students will be able to:</td><td>Domain</td><td>BT Level*</td></tr><tr><td>* BT= Bloom's Taxonomy, C=Cognitive domain, P=Psychomotor domain, A= Affective domain</td><td></td><td></td></tr></table>			At the end of the course the students will be able to:	Domain	BT Level*	* BT= Bloom's Taxonomy, C=Cognitive domain, P=Psychomotor domain, A= Affective domain		
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Topics Covered in the Course, with Number of Lectures on Each Topic (assume 15-week instruction and one-hour lectures)	Week	Lecture	Topics Covered
	Week 1	1	Course Introduction
		2	Applications of the course Institute/Work ethics
	Week 2	3	Job market overview
		4	How and where to download
	Week 3	5	Version understanding
		6	Register license
	Week 4	7	Understanding the pro and free version of Unity
		8	How to add modules after the installation
	Week 5	9	Understanding unity
		10	Understand the layout
	Week 6	11	Understanding tabs, Understanding windows, Understanding the unity Layout and Creating a new project
		12	How to Make a Game Like Jetpack Joyride in Unity 2D – Part 1
	Week 7	13	How to Make a Game Like Jetpack Joyride in Unity 2D – Part 2
		14	How to Make a Game Like Jetpack Joyride in Unity 2D – Part 3
	Week 8	1 hours	Mid Term
	Week 9	15	Scene Setup for 2D Games using unity tools
		16	How to deploy a Player and Setup on a scene
	Week 10	17	Applying animations for a player to give behavior
		18	Setup of Particles in game environment
	Week 11	19	Deploy the coins and collectables in 2D environment
		20	Overview of Build-in settings
	Week 12	21	Creating background, Looping background, Creating the main menu
		22	Buttons Scene management
	Week 13	23	Game over UI Restart UI
		24	Learning about Score management and appkying the techniques to deploye coins and show the score on layout
	Week 14	25	Creating environments for game from scratch using Tile palettes
		26	Tiles, Rigidbodies, Physics Colliders, and its types
	Week 15	27	Adding 3D items to Hierarchy Window, Arranging them in a scene view, View them in-game view
		28	Change the direction on Input, Learn raycast to Know the ground
	Week 16	29	Creating 3D environment using Terrain
		30	Making the player controller
	Week 17	2 hours	Final Term
Laboratory Projects/Experiments Done in the Course	Final project of LAB: RocketMouse, Dungeon Escape and a 3D Game are completed at the end of the course. Assigned 2D project as assignment and one Term Project at end of the semester for course evaluation.		
Programming Assignments Done in the Course			

Instructor Name Waseem Akram

Instructor Signature

Date