

Program Schedule

Module	Topic	Hours	Methodology	Tools
Module I: Foundations of Unity & Game Production	Introduction to Game Development, Unity Ecosystem, Industry Applications	2	Interactive Lecture & Demonstration	Unity
	Unity Interface, GameObjects, Components, Scenes	2	Hands-on Lab	Unity
	Game Development Workflow, GDD, TDD, Prototyping Concepts	2	Activity-Based Learning	Unity, Templates
	Project Setup, Asset Store, Package Manager	2	Guided Practical Session	Unity
	Version Control, Project Organization, Quiz-1	2	Practical Exercise & Assessment	Git, Plastic SCM
	Experiential Learning Activity	2	Group Activity & Discussion	Online Resources
Module II: Assets & Environment Development	Asset Management and Asset Importing	2	Demonstration & Hands-on Lab	Unity
	Materials, Textures, Sprites, Prefabs	2	Practical Session	Unity
	Terrain Creation and Environment Design	2	Hands-on Development	Unity
	Lighting Systems, Skybox, Reflection Probes	2	Guided Lab Activity	Unity
	Shader Basics and Visual Enhancement	2	Demonstration & Practice	Unity Shader Graph
	Quiz-2 Practical Assignment-1	2	Assessment Activity	Unity
	GameObjects, Transforms, Hierarchies	2	Interactive Lecture & Lab	Unity

Module III: Physics & Prototyping	Rigidbody, Colliders, Physics Materials	2	Hands-on Lab	Unity
	Collision Detection and Interaction Systems	2	Practical Exercise	Unity
	NavMesh, Navigation Agents, AI Pathfinding	2	Guided Practical Session	Unity
	Greyboxing and Rapid Prototyping	2	Experiential Learning Activity	Unity
	Quiz-3 Survey-Based Exercise	2	Assessment, Survey, Report & Presentation	Online Resources
Module IV: Scripting & Gameplay Development	Introduction to C# Programming in Unity	2	Coding Lab	Visual Studio
	Variables, Data Types, Conditions and Loops	2	Hands-on Programming	Visual Studio
	Methods, Coroutines, GameObject Communication	2	Guided Coding Session	Unity, Visual Studio
	Animation Systems and Character Development	2	Practical Lab	Unity
	Camera Systems, Gameplay Logic and AI Basics	2	Project-Based Learning	Unity
	Quiz-4 Practical Assignment-2	2	Assessment Activity	Unity
Module V: Game Creation, AR/VR & Deployment	2D Game Development and Interaction Systems	2	Hands-on Development	Unity
	3D Game Development and Character Integration	2	Practical Session	Unity
	UI/UX Design, Menus, HUD and Audio Systems Quiz-5	2	Assessment, Guided Lab Activity	Unity

	AR Foundation, XR Interaction Toolkit and Immersive Development	2	Demonstration & Lab	AR Foundation, XR Toolkit
	Final Capstone Project Development and Testing	2	Project-Based Learning	Unity
	Project Demonstration, Presentation and Viva Voce	2	Evaluation & Presentation	Unity Project