

EXR

EXR GAMES

Unreal Game Development
Professional Program



- Duration

: 4 Months (16 Weeks)
- Format

: Online / Offline (Hybrid)
- Focus

: Industry-ready Unreal Engine skills for Game Development + AR/VR
- Career Pathways

: Game Developer, Unreal Generalist, AR/VR Developer, Technical Artist

Module 1: Foundations of Game Testing (Month 1)

Week 1	Introduction & Setup Installing Unreal Engine & setting up projects Interface navigation & view modes Creating first interactive level
Week 2	Meshes & Collisions Static vs Skeletal Meshes Importing & optimizing 3D assets Greyboxing for rapid prototyping Collision setup for interaction
Week 3	Lighting Essentials Real-time vs baked lighting Static, Stationary & Movable lights Atmospheric lighting, skylight & fog
Week 4	Materials & Textures Material editor basics (PBR workflow) Master materials & instances Masks, textures & shaders Quixel Megascans & Substance workflows

Learning Outcome: Build & light your first interactive 3D environment.

Module 2: Blueprints, Physics & Gameplay Basics (Month 2)

Week 5	Physics Simulation Rigid bodies, constraints & ragdolls Physics volumes & collisions Interactive physics objects
Week 6	Post-Processing & Effects Post-Process Volumes (PPV) LUTs, color grading & tone mapping Stylization & cinematic looks
Week 7	Blueprint Scripting I Variables, events, debugging Triggers & interactivity Blueprint communication basics
Week 8	Blueprint Scripting II Actor classes, inheritance & OOP in Blueprints Door & key system Randomization & simple game logic Quixel Megascans & Substance workflows

Learning Outcome: Create a physics-enabled interactive mini-game using Blueprints.



Module 3: Advanced Gameplay & Cinematics (Month 3)

Week 9	Landscapes & Open Worlds Terrain sculpting & landscape materials Foliage & procedural vegetation Rivers, lakes & level streaming
Week 10	Skeletal Meshes & Animation Importing characters Control Rig basics Cloth physics & ragdoll simulation
Week 11	AI & Audio Systems Sound cues & spatial audio AI perception (sight, sound) Behavior trees & NPC patrols
Week 12	Sequencer & Cinematics Camera setups & cinematic sequences Sequencer interface & keyframes Creating in-game cutscenes



**Learning Outcome: Build a
playable level with AI enemies &
cinematic intro.**

Module 4: UI, VFX, AR/VR & Publishing (Month 4)

Week 13	User Interfaces (UMG) HUD basics (health, score, ammo) Interactive menus & buttons Diegetic 3D UI for immersive games
Week 14	Visual Effects (VFX) Niagara particle system (fire, sparks, explosions) Chaos destruction for environments Compositing & emissive shaders
Week 15	AR/VR Development Basics Introduction to VR templates in Unreal VR pawn setup, controllers & input AR basics with Unreal & ARCore/ARKit Creating simple VR interaction scenes (grab, teleport)
Week 16	Optimization & Publishing Profiling performance & reducing load Multi-platform build setup (PC, Mobile, VR) Publishing executable builds Portfolio showcase & career guidance

Learning Outcome: Develop a mini-game with AR/VR support, optimized & published as a final project.



FINAL CAPSTONE PROJECT

Students will create and publish a fully playable mini-game that includes:

- Interactive environments
- Gameplay via Blueprints
- AI-driven NPCs
- Cinematic cutscenes
- UI & VFX systems
- Optional VR/AR interaction module

Program Outcomes

- By completing the program, students will:
- Gain end-to-end Unreal Engine mastery (games, AR, VR).
- Build & publish their own playable projects.
- Be job-ready for careers in Game Development, AR/VR, Simulation & VFX.
- Have a portfolio-ready project to impress recruiters.

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