3D Environment with Unreal Engine

Course Description:

Unreal Engine is one of the best real-time tools for creating 3D environments in games, cinematics, and more.

By the end of this course, you will be able to create beautiful 3D worlds inside Unreal Engine and know how to approach design for games and real-time projects. This course will cover everything from low poly asset creation to landscapes, FX, and rendering. We will leave no stone unturned as we dive deep into the exciting world of Unreal Engine.

Course Prerequisite

3D Modeling and Texturing course *or* equivalent knowledge with the 3D basics

Course Duration   25 Classes - 3 months

Course Contents

Class 1 (**Introduction**)

• Environment art
• Introduction on Unreal, interface and Navigation

Class 2-3 (**Low poly**)

• Low poly asset modeling with glass and emissive mat
• Baking and texture.
• Import to unreal, basic mat, mat instances, light, and basic render

Class 4-5 (**Modularity**)

• Ideas and ways for modular and trims
• Modular modeling
• Trim sheet maps

Class 6-7 (Texturing)

• Tillable texture and materials
• Substance sampler and designer
• Tiling in Unreal

Class 8-11 (Modeling and UV)

• Low poly, High poly modeling, Sculpt, UV
• UV with Rizom, create cloth, wires, and cables
• Baking and texturing, make a sci-fi tile
• Importing to Unreal, Nanite, basic Material, light and cam, sequencer, and real-time render

Class 12-13 (Blocking and Level Design)

• Analyze environments and prepare references.
• SpeedTree Intro workflow and export
• Quixel Megascans, store assets, and libraries
• Level Design
• Blocking the concept and layout techniques

Class 14-15 (Terrains)

• Terrains and Mountains
• UE Landscape
• World Machine

Class 16-17 (Eco-system Creation)

• Decals and paint on models
• Landscape Material creation and masks!
• Foliage placement
• Scattering
• Importing from Megascans
• Create a custom ecosystem.
• Procedural system placement
• Procedural Masks to design different systems.

Class 18 (Lights)

• Light and shadows, and color tones
• Cinematics
• Light for games
• Different types of lights
• Dynamic light

Class 19 (Cameras and animation importing)

• Cameras
• Post-processing
• Animation in sequencer

Class 20 (Rendering)

• Render from the viewport
• Real-time High-quality render export
• Path-tracer render and export.

Class 21 (FX)

• Create low-cost clouds.
• Water types
• FX fire, dust, and particles
• Niagara intro

Class 22 (Lighting)

• Fog, and God rays
• Different lighting setup

Class 23-25 (Final Project)

Grades

Grades are distributed among Assignments, attendance, and final project.

Attendance Policy

Students missing more than 2 classes will fail the course.