

# Blender Game Designing



## E-LEARNING COURSE

**ZETLAN TECHNOLOGIES**

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# COURSE MODULES

## BEGINNER LEVEL

### 1. Introduction to Blender

- Overview of Blender's interface
- Navigation & viewport controls
- Setting up preferences and shortcuts

### 2. Basic 3D Modeling

- Understanding vertices, edges, and faces
- Primitive objects (Cube, Sphere, Cylinder, etc.)
- Transformations: Move, Rotate, Scale
- Modifiers: Subdivision Surface, Mirror

### 3. Working with Materials & Textures

- Introduction to shaders and materials
- Applying basic colors and textures
- Using UV Mapping

### 4. Lighting & Rendering Basics

- Different light types (Point, Sun, Area, etc.)
- Introduction to Eevee and Cycles render engines
- Basic rendering settings

## **Intermediate Level**

### **5. Advanced 3D Modeling Techniques**

- Extrusion, Loop Cuts, and Beveling
- Proportional Editing and Sculpting Basics
- Working with Booleans

### **6. Rigging & Animation Basics**

- Introduction to Armatures
- Keyframing and Timeline
- Simple Object and Character Animation

### **7. Physics & Simulations**

- Rigid Body and Soft Body Physics
- Cloth and Fluid Simulations
- Particles System (Smoke, Fire, Hair)

### **8. Advanced Materials & Nodes**

- Node Editor & Shader Creation
- Procedural Texturing
- Using HDRI for realistic lighting

## **Advanced Level**

### **9. Advanced Sculpting & Retopology**

- Dynamic Topology (Dyntopo)
- Multiresolution & Detail Sculpting
- Retopology for Game Assets

### **10. Character Animation & Rigging**

- Advanced IK and FK Rigging
- Shape Keys and Facial Animation
- Motion Capture & Animation Retargeting

### **11. Visual Effects (VFX) & Compositing**

- Green Screen & Camera Tracking
- Post-Processing in Blender's Compositor
- Combining 3D & Live-Action Footage

### **12. Creating a Full Scene & Portfolio Project**

- Scene Composition & Storytelling
- Lighting & post-processing
- Rendering a Final Animated Sequence