"Embark On A Thrilling Journey Into The Realm Of Game Development with Our Unreal Engine Gaming Course! Bring Your Virtual Worlds to Life, & Master the Art of Gaming"



# **UNREAL ENGINE**

3D Animation | Character Modelling | GAMING Rigging | Rendering | BLENDER | PHOTOSHOP

# **UNREAL ENGINE | GAMING | 3D ANIMATION**

100% Job Assistance Become a Certified Gaming Professional





9833900330 9833900110 Certified VIDEO EDITING & VFX Course |Adobe PREMIERE PRO | Adobe AFTER EFFECT | Adobe AUDITION | PORTFOLIO CREATION | INTERVIEW PREPARATION







**Real Classes Images** 

# 🚰 Why Should you Learn from Softpro?

- 1. 32 Years Experience (Estbl. 1992 Softpro Academy)
- 2. 100% Practicals in Classroom with Assignments
- 3. You Create & Work on Live Projects.
- 4. Learn from Experienced Professionals & Experts
- 5. Faculties have **<u>REAL Life Experience</u>**
- 6. Small Batches of Students leads to Personal Attention
- 7. Simple & Easy to Understand Course Material
- 8. You have Classroom Training & Learn from Anywhere
- 9. Highly Experienced & Industry Expert Faculty.
- 10. 100% Job Assistance
- 11. Dedicated Placement Team









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This course is designed to take learners from the basics to advanced concepts in game development using Unreal Engine.

# G A M I N G: Unreal Engine Game Development

# **Module 1: Introduction to Unreal Engine**

## 1. Overview of Unreal Engine:

- Introduction to game engines and Unreal Engine's role.
- Installing and setting up Unreal Engine.

## 2. User Interface and Project Setup:

- Navigating the Unreal Editor.
- Creating and configuring new projects.

# Module 2: Understanding the BLUEPRINT VISUAL Scripting

- 3. Actor and Pawn System:
  - Introduction to Actors and Pawns.
  - Implementing movement & interaction.

## 4. **BLUEPRINT Visual Scripting:**

- Fundamentals of visual scripting in Blueprints.
- Creating simple game mechanics using Blueprints.

# **Module 3: World Building and Level Design**

- 5. Level Design Essentials: ENGINE
  - Understanding levels and sub-levels.
  - Building environments using the Landscape tool.

## 6. Lighting and Atmosphere:

- Implementing dynamic and static lighting.
- Creating atmospheric effects and post-processing.

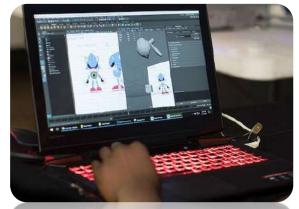
# Module 4: Character & Animation

- 7. Character Creation:
  - Importing character assets.
  - Setting up character animations.

## 8. Animation BLUEPRINTS:

• Blending animations for fluid character movement.





## **Module 5: Gameplay Mechanics**

#### 9. Player Input and Controls:

- Configuring player input.
- Implementing control schemes.
- 10. Gameplay Mechanics Implementati
  - Designing and implementing core gameplay mechanics.
  - Creating interactive elements.

# Module 6: Multiplayer Developme

- 11. Introduction to Multiplayer:
  - Setting up multiplayer functionality.
  - Replication and networking essentials.

## 12. Online Subsystems and Matchmaking:

- Implementing online subsystems.
- Creating matchmaking systems.

# **Module 7: Optimization and Performance**

- 13. **Performance Optimization Techniques:** 
  - Profiling and optimizing game performance.
  - Addressing common bottlenecks.

# Module 8: Real-world Project Development

#### 14. Project Development:

- Collaborative development on a real-world project.
- Integrating various concepts learned throughout the course.

## **Module 9: Final Project and Showcase**

15.

#### Final Project:

- Working on a comprehensive final project.
- Implementing advanced features and showcasing skills.

#### 16. **Portfolio Development:**

- Creating a portfolio to showcase completed projects.
- Preparing for job opportunities and freelance work.



## **Prerequisites:**

- Basic understanding of programming concepts
- Familiarity with game development concepts.

This **course is designed for individuals who aspire to become proficient game developers using Unreal Engine.** It covers a broad range of topics to provide a understanding of game development principles and practices using this powerful game engine.



# Blender 3D ANIMATION

## **Module 1: Introduction to Blender**

- 1. Overview of Blender:
  - Introduction to the Blender interface.
  - Navigating the 3D viewport and understanding key elements.
- 2. Setting Up Projects:
  - Creating and configuring projects in Blender. Project organization and management.

## Module 2: Basic 3D Modeling

- 3. Primitive Objects:
  - Creating basic shapes and objects.
  - Manipulating vertices, edges, and faces.

#### 4. Modifiers and Mesh Editing:

- Applying modifiers for efficient modeling.
- Advanced mesh editing techniques.

# Module 3: Sculpting and Texturing

- 5. Sculpting Tools:
  - Introduction to sculpting in Blender.
  - Creating organic shapes and detailing.
- 6. Texturing and UV Mapping:
  - Applying textures to 3D models.Understanding UV mapping and unwrapping.

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## Module 4: Advanced 3D Modeling

- 7. Hard Surface Modeling:
  - Creating complex, geometric forms.
  - Implementing boolean operations for precision.

#### 8. Modeling for Animation:

- Rigging and preparing models for animation.
- Understanding the importance of topology.

# Module 5: Animation and Rigging

- 9. Introduction to Animation:
  - Keyframe animation in Blender.
  - Creating smooth and realistic animations.

#### 10. Rigging and Armatures:

- Rigging characters for animation.
- Implementing inverse kinematics (IK) and constraints.

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## **Module 6: Lighting and Rendering**

#### 11. Lighting Techniques:

• Implementing various lighting setups. Enhancing scenes with realistic lighting.

#### 12. Rendering in Blender:

- Configuring rendering settings.
- Exploring the Cycles and Eevee render engines.

## **Module 7: Particle Systems and Simulations**

#### 13. Particle Systems:

- Creating dynamic effects such as fire, smoke, and rain.
- Fine-tuning particle parameters.

#### 14. Physics Simulations:

• Simulating physics-based animations. Cloth, fluid, and soft body simulations.

## Module 8: Compositing and Post-Processing

#### 15. Compositing in Blender:

• Combining & Enhancing rendered images. Visual effects & Color correction.

#### 16. Post-Processing Techniques:

- Adding final touches to rendered images.
- Exporting images and animations.

## Module 9: Game Development with Blender

#### 17. Introduction to Blender Game Engine:

• Basics of game development in Blender. Creating simple interactive games.

#### 18. Exporting to Game Engines:

- Exporting models and animations to external game engines.
- Integration with popular game development platforms.

## Module 10: Real-world Projects and Portfolio Building

#### 19. Project-Based Learning:

- Applying acquired skills to practical projects.
- Building a portfolio showcasing completed work.

#### 20. Industry Tips and Best Practices:

- Tips for efficient workflows and time-saving techniques.
- Best practices for collaboration and asset management.

**Prerequisites:** This comprehensive Blender 3D Masterclass is designed for individuals who want to explore the full spectrum of Blender's capabilities, from 3D modelling and animation to simulation and game development.

# Adobe PHOTOSHOP

## **Module 1: Introduction to Adobe Photoshop**

- 1. Overview of Adobe Photoshop:
  - Introduction to the interface and workspace.
  - Understanding the tools and panels.
- 2. Setting Up Projects:
  - Creating and configuring a new project.
  - Utilizing presets and custom settings.

## Module 2: Basic Image Editing

- Module 3: Selection and Masking
- Module 4: Layers and Blending Modes
- Module 5: Text and Typography
- **Module 6: Image Retouching and Restoration**
- Module 7: Filters and Effects
- **Module 8: Advanced Techniques**
- Module 9: Automation and Batch Processing
- Module 10: Real-world Projects and Portfolio Building

## **Prerequisites:**

- Basic computer skills.
- Familiarity with graphic design concepts is beneficial but not mandatory.



# Autodesk MAYA for Game Development

## Introduction to Maya

- Overview of Maya Interface
- Navigating the Viewport
- Customizing the Workspace
- Understanding Maya's File Structure
- Basic Navigation and Controls

## **Modeling Fundamentals**

- Introduction to 3D Modeling
- Understanding Polygons and NURBS
- Creating and Manipulating Basic Shapes
- Extrusion, Beveling, and Bridging Techniques
- Modeling Workflow and Best Practices

## Advanced Modeling Techniques

- Organic Modeling: Characters and Creatures
- Hard Surface Modeling: Props and Environments
- Using Reference Images and Blueprints
- Retopology for Game Models
- High-Poly vs. Low-Poly Modeling

## UV Mapping and Texturing

- Introduction to UV Mapping
- Unwrapping UVs for Texturing
- Using UV Layout Tools
- Creating and Applying Textures
- Advanced Texturing Techniques
- Working with PBR Textures





#### Shading and Materials

- Understanding Maya's Shading Networks
- Creating and Editing Materials
- Using the Hypershade Editor
- Working with Various Shader Types
- Applying Bump Maps, Normal Maps

### Lighting and Rendering

- Basics of Lighting in Maya
- Working with Different Light Types
- Creating Realistic Lighting Setups
- Introduction to Rendering in Maya
- Using Arnold Renderer
- Optimizing Renders for Game Engines

#### **Rigging and Animation**

- Introduction to Rigging
- Creating and Applying Skeletons
- Skinning and Weight Painting
- Basics of Character Animation
- Keyframe Animation and Timeline
- Using the Graph Editor for Animation
- Creating Animations for Game Engines

#### **Dynamics and Effects**

- Introduction to Dynamics in Maya
- Working with Particles and Fluids
- Creating Cloth and Hair Simulations
- Using Bullet Physics for Rigid Body Dynamics

#### Integration with Game Engines

- Preparing Models for Export to Game Engines
- Exporting to Unity and Unreal Engine



- Ensuring Compatibility and Optimization
- Testing Assets in the Game Engine Environment

#### **Advanced Topics**

- Advanced Character Rigging
- Facial Rigging and Animation
- Procedural Modeling Techniques
- Using MEL and Python for Scripting

### Project Workflow and Pipeline

- Project Planning and Asset Management
- Working in a Team Environment
- Best Practices for File Organization and Version Control
- Collaborating with Other Disciplines (e.g., animators, programmers)

## Project

- Planning a Game Asset or Scene
- Implementing Advanced Modeling and Texturing Techniques
- Rigging and Animating Characters or Objects
- Integrating the Final Asset into a Game Engine
- Presenting and Critiquing the Final Project

#### **Career Preparation**

- Building a Professional Portfolio
- Networking and Industry Insights
- Resume and Interview Preparation
- Exploring Career Paths in Game Development

This comprehensive course content is designed to provide a thorough understanding of **Autodesk Maya for game development,** ensuring that students acquire the skills needed to create professional-quality game assets and animations.

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## **Audio Tools**

**Adobe Audition:** A more advanced audio editing tool, part of the Adobe Creative Cloud suite.



# **3D MAX** CHARACTER ANIMATION

#### 1. Introduction to 3D Max

- Overview of 3D Max interface
- Basic navigation and tools
- Setting up the workspace for character animation

### 2. Character Design and Modeling

- Principles of character design for gaming
- Modeling characters using polygonal techniques
- Creating high and low poly models
- UV mapping and texturing basics

## 3. Rigging Fundamentals

- Introduction to character rigging
- Creating and setting up a skeletal structure
- Skinning and weighting techniques
- Implementing inverse kinematics (IK) and forward kinematics (FK)

## 4. Character Animation Basics

- Principles of animation (Timing, Spacing, Squash, Stretch.
- Keyframe animation techniques
- Working with the timeline and curve editor
- Creating a basic walk cycle

## 5. Advanced Character Animation

- Refining walk cycles and creating run cycles
- Animating different types of movement (jumps, turns)
- Facial animation techniques and lip-syncing
- Animating with constraints and controllers

## 6. Animating for Interactivity

- Understanding animation states for games (idle, attack, defense, etc.)
- Transitioning between animation states smoothly
- Looping animations for continuous action



#### 7. Using Biped and CAT Tools

- Introduction to Biped and Character Animation Toolkit (CAT)
- Creating and customizing Biped rigs
- Animating with CAT motion layers and presets

#### 8. Integrating Animations into Game Engines

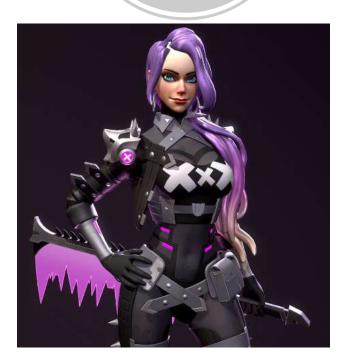
- Exporting character models and animations
- Importing assets into game engines (e.g., Unity, Unreal Engine)
- Setting up animation controllers and states in game engines
- Troubleshooting common issues with animations in games

#### 9. Optimization and Performance

- Techniques for optimizing animations for real-time performance
- Reducing poly count and optimizing textures
- Implementing LOD (Level of Detail) for character models

#### **Project Work and Final Assignment**

- Planning and creating a complete character animation sequence for a game
- Peer review and feedback sessions
- Final presentation and evaluation



# ZBRUSH

- Interface and Navigation
- Scene Organisation, Tools and Subtools
- Primitives
- Import and Export Of Models
- Masks
- Layers
- Clip, Trim and Slice Tools
- Zspheres
- Shadowbox and Dynamesh
- Zremesher and Retopology
- Projections
- Live Booleans
- Creation Of Brushes, Alphas and Paths
- Alphas3D (VDM) IMM
- Brush Multialpha
- Surface Noise and Distribution Of Surface Patterns
- Distribution Of Geometries By Surfaces, Nanomesh
- Micromesh and Fibermesh
- Painting Objects, Polypaint
- Creating Uvs, UV Master
- Extraction Of Maps, Texture Map, Normal Map, Displacement Map, Cavity Map

- Character Posing, Transpose
- Rendering with Keyshot
- Video Creation from Zbrush



## KEY GAMING CAREER PATHS UTILIZING UNREAL ENGINE, 3D MAX, VFX, ZBRUSH & MAYA:

#### 1. Game Designer

- Conceptualizing game ideas and mechanics
- A Designing levels, missions, and user experiences
- Using Unreal Engine for prototyping and implementing gameplay elements

#### 2. 3D Modeler

- A Creating high-quality 3D assets for characters, environments, and props
- A Using 3D Max or Maya for modeling, texturing, and rendering
- A Optimizing models for real-time performance in Unreal Engine

#### 3. Character Artist

- Designing and modeling detailed characters
- A Rigging and skinning characters in 3D Max or Maya
- A Importing and animating characters in Unreal Engine

#### 4. Environment Artist

- A Building immersive and visually stunning game environments
- Solution Solution And Solution Solution Solution And Property American Solution Solu
- A Integrating assets and optimizing levels in Unreal Engine

#### 5. Technical Artist

- A Bridging the gap between artists and programmers
- A Developing shaders, materials, and visual effects in Unreal Engine
- A Scripting and automating workflows in 3D Max, Maya, and Unreal Engine

#### 6. Animator

- A Creating lifelike animations for characters and objects
- A Using 3D Max or Maya for rigging and animation
- A Implementing and refining animations in Unreal Engine

#### 7. Visual Effects (VFX) Artist

- A Designing and creating visual effects like explosions, smoke, and magic
- A Using particle systems and simulations in 3D Max or Maya
- A Integrating VFX into Unreal Engine for real-time performance

#### 8. Level Designer

- Planning and constructing game levels
- A Using Unreal Engine for level layout, lighting, and scripting
- Collaborating with 3D artists to populate levels with assets

#### 9. Technical Director

- A Overseeing technical aspects of game development
- Managing pipelines and ensuring compatibility between 3D Max, Maya, and Unreal Engine
- Solving complex technical challenges and optimizing workflows

#### 10. Game Developer/Programmer

- Mitting code to implement game mechanics and systems
- Using Unreal Engine's Blueprints or C++ for game logic
- A Collaborating with artists to integrate assets and animations

#### 11. Freelance Artist/Developer

- A Offering specialized services in modeling, animation, or game design
- 🐢 Utilizing 3D Max, Maya, and Unreal Engine for various projects
- Norking with multiple clients across different gaming platforms

"CAREER PATHS offer diverse opportunities for leveraging skills in UNREAL Engine, 3DS MAX, ZBRUSH, & MAYA to create engaging & Visually Stunning Games"







**MASTER GRAPHICS 6 MONTH DIPLOMA** Adobe Photoshop | Illustrator | In-Design | Product Packaging | CANVA | Digital Art | Al Artificial Intelligence | PORTFOLIO



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