



TECHNOCATION FREELANCING TRAINING INSTITUTE & SOFTWARE HOUSE

Professional 2D & 3D Animation Course Outline

Module 1: Introduction to Animation

- Understanding the Basics of Animation
 - Difference Between 2D & 3D Animation
 - History & Evolution of Animation
 - Principles of Animation (Squash & Stretch, Timing, Anticipation, etc.)
 - Industry Tools: Adobe Animate, Toon Boom Harmony, Blender, Maya, Cinema 4D
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Module 2: 2D Animation Fundamentals

- Introduction to 2D Animation Software (Adobe Animate, Toon Boom Harmony)
 - Frame-by-Frame vs. Tweening Animation
 - Character Design & Rigging for 2D Animation
 - Creating Basic Walk Cycles & Facial Expressions
 - Lip Syncing & Voiceover Integration
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Module 3: 2D Motion Graphics & Special Effects

- Introduction to After Effects for Motion Graphics
 - Creating Dynamic Title Animations
 - Motion Tracking & Kinetic Typography
 - Adding Special Effects (Glows, Smoke, Explosions)
 - Animating Logos & Social Media Graphics
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Module 4: 3D Animation Basics

- Introduction to 3D Software (Blender, Autodesk Maya, Cinema 4D)
 - Understanding 3D Modeling & Texturing
 - Basics of Rigging & Character Setup
 - Keyframing & Timeline Animation in 3D
 - Rendering Techniques & Lighting Basics
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Module 5: Character Animation in 3D

- Creating Realistic Walk Cycles & Expressions
 - Lip Syncing & Facial Animation
 - Weight & Physics in Character Movement
 - Animation Layers & Blending for Realistic Motion
 - Working with Motion Capture Data
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Module 6: Environmental & Object Animation

- Animating Vehicles, Objects & Props
 - Simulating Cloth, Hair, and Fluids in 3D
 - Creating Cinematic Camera Movements
 - Dynamic Effects (Wind, Fire, Water, Smoke)
 - Using Particle Systems & Physics-Based Animation
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Module 7: 3D Rigging & Motion Capture

- Creating a 3D Skeleton for Animation
 - IK vs. FK (Inverse & Forward Kinematics)
 - Advanced Rigging for Facial Animation
 - Working with Motion Capture (MoCap) Data
 - Integrating Mocap Animation with Manual Keyframes
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Module 8: Lighting, Rendering & Compositing

- Understanding 3D Lighting Techniques
- Ray Tracing vs. Rasterization Rendering

- Post-Processing in After Effects & Nuke
 - Integrating 2D & 3D Animation in a Single Project
 - Exporting for Film, TV, and Web
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Module 9: Game & Interactive Animation

- Understanding Animation in Video Games
 - Using Unity & Unreal Engine for Animation
 - Creating Real-Time 3D Animations
 - Character Animation for Games
 - Importing & Animating 3D Models in Game Engines
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Final Module: Capstone Project & Certification

- Creating a Short 2D or 3D Animated Film
- Developing a Motion Graphics Commercial
- Building an Animation Portfolio
- Course Completion Certification