CINEMA FACTORY
ACADEMY

ADVANCED VIRTUAL PRODUCTION

AFFILIATED BY

Media & Entertainment Skills Council | Skill India | N·S·D·C National Skill Development Corporation

UNREAL ENGINE

Academic Partner 2025

1 YEAR DIPLOMA

COURSE CATALOG

ADVANCED VIRTUAL PRODUCTION

Our course is meticulously crafted by a team of specialists and technicians who are not only industry experts but are also actively working on cutting-edge projects in the VFX and film industries. This ensures that our curriculum is always relevant, up-to-date, and aligned with the latest industry standards and technological advancements.

Prerequisites

To ensure that students are well-prepared for the Unreal Engine course and can fully benefit from the training, the following prerequisites are required:

Minimum Education Requirement:

Students must have completed a minimum of class 10 or equivalent. This foundational education ensures that students have the necessary academic skills and discipline to engage with the course material effectively.

Basic Foundations of Visual Effects:

Students should have a basic understanding of visual effects concepts, including:

Key Terminologies:

Familiarity with terms like compositing, rendering, animation, and simulation.

Software Basics:

Basic knowledge of VFX software such as Adobe After Effects, Blender or Nuke.

Technical Proficiency

Computer Literacy:

Proficiency in using computers and navigating software interfaces.
Basic understanding of file management, software installation, and system requirements.

Expert Mentors

Aravind Naga

VFX Supervisor | Head Of The Department

Unreal Authorized Instructor 2025

Aravind Naga is a highly accomplished professional with over a decade of experience as a VFX Supervisor and Post Production Supervisor. His visual effects work on acclaimed films such as Super Deluxe, Modern Love Chennai and Title Animations for Theri and Mersal has earned him prestigious accolades, including the Best VFX award at the Osaka Tamil International Film Festival for the film“Super Deluxe."

Filmography : Super Deluxe, Demonte Colony, Modern Love Chennai, Theri, Mersal, Maara, Maragadha Naanayam, Thegidi, Kuthiraivaal ,Kalyana Samayal Saadham, Kallachirippu, Kaiyum Kalavum, and many more.

Shiv Shankar

VFX & Virtual Production Mentor

Unreal Authorized Instructor 2025

Shiv Shankar stands out as a talented Senior VFX & Unreal Engine artist, specializing in Virtual Production with abundance hands-on experience in the visual effects industry. His proficiency in ICVFX has resulted in impressive outcomes across a range of notable projects.
Shiv's portfolio exemplifies his ability to deliver compelling and high-quality visual effects.

Filmography : The Ghost, Yashoda, Thandel, Miss Shetty Mr. Polishetty, Eagle, and Naa Saami Ranga and more.

Virtual Production Projects :

Rado, Chennai’s Amrita, Vara Mahalakshmi Silks, Robinhood, Eagle, Naa Saami Ranga, Miss Shetty, Bigg Boss Telugu

Muniraj

Creative Technologist

With over 12 years of experience as a DIT and creative technologist, Muniraj has established himself as a key figure in the filmmaking industry. Known for his exceptional problem-solving skills and innovative approach, he excels in addressing on-the-spot issues during film production.

Filmography : Kaala, Marina, Super Deluxe, Mumbai Police, Vikram Vedha, Thaanaa Serndha Koottam and many more.

Expertise Behind The Course Design

Real-World Experience:
Our instructors bring years of hands-on experience from working on major Hollywood films, award-winning television series, and groundbreaking virtual production projects.

Current Engagements:
They are actively involved in high-profile projects, ensuring they stay at the forefront of industry developments and emerging technologies.

Specialists In Their Fields

Technical Proficiency:
Our course designers include specialists in various domains of VFX, including virtual production, real-time rendering, character animation, and simulation effects.

Innovative Techniques:
They employ the latest techniques and tools, ensuring students learn the most current and effective methods in the industry.

Continuous Updates | Adapting to Trends:
The curriculum is continuously updated to reflect the latest trends, tools, and methodologies in VFX and virtual production.

Feedback Integration:

We actively seek feedback from students and industry professionals to refine and enhance our courses.

By enrolling in our courses, students benefit from the collective knowledge and expertise of industry leaders who are shaping the future of visual effects and virtual production. This real-world perspective ensures that our training programs are not only theoretically robust but also practically applicable, preparing students to excel in their careers.

Unreal Engine Community Meetup Held At Cinema Factory Academy

ADVANCED VIRTUAL PRODUCTION

Course Overview

Step into the cutting edge of film making and VFX with this immersive, year-long program designed to turn visual effects artists into virtual production specialists. From Unreal Engine to LED wall production, from indie setups with JetSet Pro to advanced camera tracking tools like Portal Tracker, HTC Vive Mars, you will master the tools, techniques, and creative workflows shaping the future of film, TV, games, and immersive media.

By the end of the program, you will deliver a fully produced virtual production short film, ready for your professional portfolio.

Curriculum Highlights

- Updated Industry Curriculum: Stay ahead with regularly refreshed lessons aligned to emerging tools and workflows.
- Hands-On, Practical Focus: Learn by doing with real-world projects, hardware, and studio environments with 3 days of LED Wall Access
- International Mentor Workshops: Zoom sessions with Hollywood VFX experts.
- AI & Indie Production Focus: Gain a dual advantage by mastering both cutting-edge AI techniques and affordable indie VP tools like JetSet Pro.
- Studio-Level Tools: Work with the same trackers, mocap systems, and compositing pipelines used in major productions.
- Portfolio-Ready Outcomes: Graduate with a polished Virtual Production - Short Film that showcases your technical and creative skills.
- Cinematography Sessions : Cinematic Camera & Lens Science
- Previz, Techviz, Postviz : Green Screen & Indie VP (JetSet Pro integration)
- Motion Capture (Move AI: markerless mocap, retargeting, character animation)
- AI & Procedural Environments (AI tools, World Creator plugin, ethical use)
- VP Tracking Systems (HTC Vive Mars, Portal Tracker, nCam)
- Photogrammetry : Asset building and uploading to the market place.

Detailed Course Breakdown

3D Modeling and Asset Preparation

Students start by learning to build the foundational assets needed for virtual production, including:

Hard surface modeling (props, environments, set pieces) using Maya/Blender

Environment modeling focused on modular, game-ready assets

Clean topology practices for real-time performance (including LODs and UV unwrapping)

Best practices for organizing large scenes to be optimized for Unreal Engine workflows

Export pipeline: Preparing models, materials, and assets for smooth transfer into UE

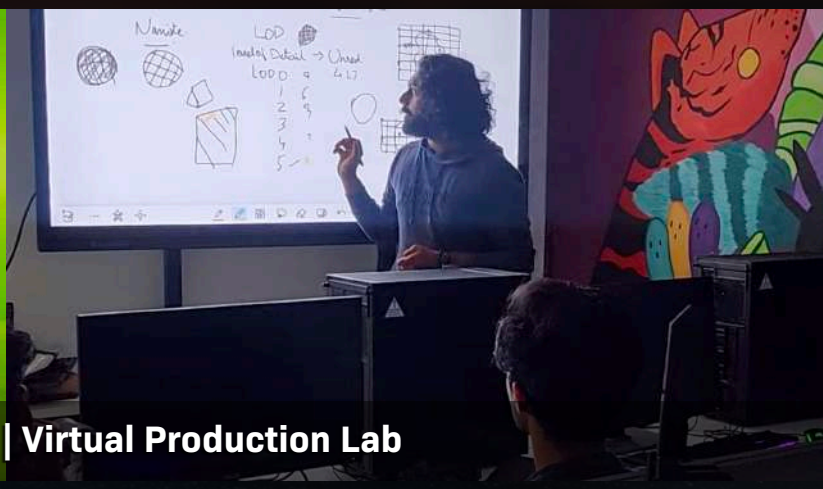
Texturing and Material Workflows

Once modeling fundamentals are in place, students move into texturing using:

Adobe Substance Painter: Creating PBR (Physically Based Rendering) materials and baking high-to-low details

Smart material systems, procedural masks, and layered material workflows

Optimizing texture exports specifically for real-time rendering constraints



Cinema Factory - Green Screen Studio | Virtual Production Lab

Cinematography Sessions:

Students study the cinematic aspects of VP and how to translate real-world cinematography into virtual scenes:

Understanding real-world camera physics — focal length, aperture, sensor formats, depth of field

Replicating real lenses and camera setups inside Unreal Engine for cinematic fidelity
Learning virtual camera rigs: crane, dolly, handheld, multi-camera setups

Exploring multi-cam setups and advanced camera language for narrative and commercial work

Detailed Course Breakdown

Camera Tracking and Match Moving

Students explore how to align real-world camera movement with virtual scenes:

3DEqualizer and PFTrack for solving nodal and free-camera motion

Matching live-action camera movement with Unreal camera rigs

Using geometry match move to ensure realistic integration of virtual elements in post

Exporting and integrating tracked data into Unreal Engine

Previz, Green Screen, and Indie Virtual Production

This section introduces both large-scale and indie VP workflows:

Shot blocking and camera staging for previs inside Unreal Engine Green screen lighting, setup, and keying techniques

Indie Virtual Production with JetSet Pro:

Understanding JetSet Pro as an affordable, portable solution for small studios:

Setting up JetSet Pro for in-camera VFX without expensive LED walls

Integrating JetSet Pro's real-time camera tracking into Unreal

Using JetSet Pro for hybrid setups (green screen + virtual environments)

Conducting practical exercises where students design and execute small-scale VP shots using JetSet Pro

Student's Industrial Visit : AR Rahman Film City - Ustream Virtual Production Stage

Detailed Course Breakdown

Postviz and Motion Capture Integration

Students learn how to combine live-action & CG elements:

Setting up Move AI for motion capture without suits or sensors

Capturing mocap data, cleaning it, and retargeting onto digital characters

Integrating live-action footage with CG animation for postvisualization

Editing timelines and sequencing in Unreal Engine to create fast previz and postviz renders

CFA Students using MoCap suits.

Intermediate Unreal Engine Techniques

Once foundational skills are built, students advance to Unreal Engine mastery:

Blueprints for camera control, interactivity, and live triggers

Advanced Sequencer workflows for multi-layered shot control

Niagara particle system basics for real-time visual effects (e.g., fog, sparks, rain, dust)

Scene optimization techniques for maximizing performance in complex environments

AI-Driven Environments and Terrain Creation

Students explore cutting-edge AI tools and procedural generation:

AI-based landscape, prop, and lighting generation using text/image prompts

Ethical guidelines, creative control, and limits of AI in production pipelines

World Creator plugin: Procedural terrain design, height map generation, and exporting to Unreal

Combining AI-generated elements with hand-modeled assets for photorealistic, scalable environments

Set extension workflows, 2D/3D matte painting, and seamless blending into LED wall setups

Detailed Course Breakdown

Live Compositing and On-Set Execution

Students apply everything in real-time production scenarios:

Multi-screen setup management using nDisplay

Live compositing workflows: Chroma keying using Black Magic Ultimatte, LED walls

Real-time color pipelines, LUT application, and exposure matching

On-the-fly creative adjustments and collaborative decision-making during live shoots

Expert Mentor : Ace Cinematographer - Manoj Paramahamsa ISC

Virtual Production Tracking Systems

Students are exposed to a range of professional camera tracking systems:

Introduction to Portal Tracker, HTC Vive Mars, nCam, Stype, Mo-Sys, Zeiss CinCraft tracking systems

Understanding timecode, genlock, lens encoder integration

Hands-on calibration exercises syncing real-world camera data to Unreal rigs

Comparing the strengths, costs, and application scales of each tracking system (indie vs. studio)

Hands-on experience with Portal Tracker & HTC Vive Mars with detailed practical case studies.

Detailed Course Breakdown

Techviz, LIDAR, and Virtual Scouting

Students explore advanced prep techniques for VP:

Capturing photogrammetry and LIDAR scans to create digital twins

Technical visualization (techviz) — camera arcs, crane measurements, rig setup planning

Virtual location scouting and director walkthroughs inside Unreal

Preparing both large and indie sets for efficient VP shooting

Student Project: Complete Virtual Production Short Film (3 Days of LED Wall Access)

The final section synthesizes all learned skills into a real-world production challenge:

Final planning, script breakdown, and detailed storyboarding

Executing a full VP shoot using LED wall, green screen, indie setups (JetSet Pro), or a combination

Incorporating mocap, AI environments, camera tracking, and set extensions

Final grading, editing, and delivery of a polished short film

Career Pathways

- Virtual Production Artist
- Unreal Engine Artist (Real-Time)
- Unreal Engine Technical Director (TD)
- Virtual DP / Virtual Cinematographer
- Cinematic Animator (Real-Time)
- Procedural Terrain Artist (World Creator)
- Scene Layout & Set Extension Artist
- VAD (Virtual Art Department) Artist
- Previz Artist
- Postviz Artist
- Previsualization Layout Artist
- VP Storyboard & Camera Blocker

Cinema Factory Academy Mentors
Aravind Naga & Shiv Shankar

International Trip | Bangkok

International VFX Studio Visit - Monk Studios, Bangkok

Unformat Studio, Bangkok

Nextgen VP Summit, Bangkok

Figment Studio, Bangkok

UNREAL ENGINE

Academic Partner
2025

Download PDF

CINEMA FACTORY ACADEMY

AFFILIATED BY

Media & Entertainment Skills Council | Skill India कौशल भारत-कुशल भारत | N·S·D·C National Skill Development Corporation

BIGBAY CINEMA FACTORY PVT LTD
No.271A, 3rd Floor, Maan Sarovar Tower, Scheme Road,
Teynampet, Chennai - 600018 India
www.cinemafactoryacademy.com
contact@cinemafactoryacademy.com
+91 9884683888 | +91 9884428688 | +91 44 24815365