COURSE CATALOGUE

SPRING 2022
(BETA)

ABOUT
FINAL PIXEL ACADEMY

Final Pixel Academy trains the next generation of VP artists, technicians, producers and directors. Based on the "workflow learnings and on-set experiences" that Final Pixel has gained during projects for companies including Discovery and Disney/ABC, the academy runs courses at all levels across the entire VP workflow. This will include the creation of Unreal environments optimised for VP and the teaching of skills required of an on-set VP crew.

These training opportunities offer you in-demand, skills-based learning and allows you to future proof your career aspirations across film, television, advertising and broadcast industries.

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ON SET VIRTUAL PRODUCTION INTRODUCTION
OSVP

Our **On Set Virtual Production Introduction** Course provides an overview and understanding of what Virtual Production (VP) is and how it varies from traditional production.

This course will cover the basics of VP, what it is and how it works. You will learn what the benefits are for advertising projects and how to choose appropriate projects for Virtual Production. You will learn about the Virtual Art Department (VAD) and new approaches to creative. You will also see real-world examples and case studies on how to use VP for production problem solving and the common pitfalls.

This introductory course will give you the foundations of Virtual Production to start on your journey to more specialist focus and best prepare you for our other next level courses.

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INTRODUCTION TO VIRTUAL
PRODUCTION

MODULE 1

FinalPixel-DWTS

In this module, you will learn:

- *Learn the basics – what is it, how does it work?*

- *What are the benefits for advertising projects?*

- *How to choose appropriate projects for Virtual Production.*

- *What are the differences vs traditional production?*

- *The Virtual Art Department and new approaches to creative.*

- *See real-world examples and case studies*

- *How to use VP for production problem solving.*

- *Common pitfalls.*

This module will enable you to understand what is and does and how it differs from traditional production.

Learning outcomes will be to have a solid foundational knowledge in Virtual Production.

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V I R T U A L   P R O D U C T I O N :   A   P R O D U C E R ' S
P E R S P E C T I V E

MODULE 2

In this module, you will learn:

- *Recap of the basics – what is it, how does it work?*

- *Explanation of Virtual Art Department (VAD).*

- *Explanation of On Set Virtual Production Department (OSVP).*

- *Virtual Production Workflow from a Producer's Point of View.*

- *Creative & On Set pitfalls to be aware of.*

- *Example schedule of "on set week" including activities & crewing.*

- *Costs v Savings compared to traditional production.*

This module will enable you to understand how the Virtual Art Department works, producer's workflows and important budgetary cost savings for VP.

Learning outcomes will allow you to be confident as a Producer working on a Virtual Production set.

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V I R T U A L   P R O D U C T I O N :   A   D I R E C T O R ' S
P E R S P E C T I V E

MODULE 3

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In this module, you will learn:

- *Recap of the basics – what is it, how does it work?*

- *Detailed look at three key technologies underpinning VP.*

- *Differences vs traditional production from a Director's perspective.*

- *Working with a Virtual Art Department.*

- *How traditional production roles have changed.*

- *What to expect on-set.*

- *Real-world case studies*

- *Advantages, disadvantages and common pitfalls.*

This module will enable you understand key technologies that underpin VP, how to work with the VAD and what to expect on set.

Learning outcomes will allow you to be confident as a Director working on a Virtual Production set.

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INTRODUCTION TO UNREAL ENGINE

MODULE 4

In this module, you will learn:

- *Intro to Unreal engine*
- *Asset creation, sourcing, Ingest*
- *Intro to PBR*
- *Lighting*
- *Intro to optimisation*

This module will enable you to understand how Unreal Engine provides the backbone of the on set technical requirements of a Virtual Production set.

Learning outcomes are to understand how Unreal Engine works and all its capacities to integrate into various facets of Virtual Production projects.

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S U S T A I N A B I L I T Y   A N D   V I R T U A L
P R O D U C T I O N

MODULE 5

In this module, you will learn:

- *What is sustainable production?*

- *Overview of current problems: calculators, local regulations...*

- *Latest recommendations in sustainable film making.*

- *Resources & solutions.*

- *Top 3 reasons VP is a good choice for sustainable film making.*

- *How to push for VP including how to get creatives on board.*

- *What needs to happen to move VP forward as a sustainable option.*

This module will enable you to understand the current problems facing the industry, what tools are available to tackle climate change and industry resources to supports sustainability within Virtual Production.

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IN-CAMERA COMPOSITE

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Our On Set **Technical Artist Level 1** Course provides an overview and understanding of what Virtual Production (VP) is and how it varies from traditional production. It also gives you an understanding of all the different software required, which touches on the VP workflow.

This course will cover the concept of what real-time rendering is, how rending in real-time varies and the challenges involved. It will also give you a practical foundation beyond the introduction in using Unreal Engine, which is the piece of software that ties everything together.

These job-ready skills will give you the capabilities to understand how you fit into the team and how to work within the VP pipeline (what needs to be done). Our Levels 3 and 4 will provide the hands-on skills, but this Level 1 course will give you the foundation to start.

By the end of this course, you will have a strong idea of what roll you are interested in and have good foundational understanding of the VP workflow.

TECHNICAL ARTIST (LEVEL 1)

OSTA

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INTRO TO PHYSICAL BASED
RENDERING (PBR)

MODULE 1

In this module, you will learn:

• *Physically Based Materials introduction*

• *Creating Material instances*

• *Using transparency in Unreal*

• *Using masking in materials*

• *How to animate a material*

• *Using Decals in environments*

• *How to control materials dynamically*

• *How to control the material UVs*

This module will enable you to understand what is required to render in real-time, what the PBR pipeline is and how you render, and get hands-on experience with using Unreal Engine when altering the materials.

Learning outcomes will be to set up creative material and be able to alter materials within scenes.

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ASSET CREATION, SOURCING & INGESTION

MODULE 2

In this module, you will learn:

- *Overview of model creation*

- *DCC Software Overview*

- *How to source pre-made assets*

This module will enable you to understand the asset production pipeline, identify different software in use and the specialists you will need to collaborate with to get tasks completed. You will learn how to access and source new models and assets for new projects from numerous places.

Learning outcomes will be to understand how to get assets into a project, how they are created, and imported (i.e., before you do a project you need to get assets into Unreal Engine).

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In this module, you will learn:

- *An overview of the different lighting actors*
- *The difference between baked and dynamic lights*

This module will enable you to light a scene and to make informed choices of the type of lighting you use within Unreal Engine, independent of how the scene is set up.

Learning outcomes will allow you to be able to light a scene within Unreal Engine.

L I G H T I N G

MODULE 3

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INTRO TO OPTIMISATION

MODULE 4

In this module, you will learn:

• *Introduction to optimisation*

This module will enable you to understand why optimisation is important, to make good choices (i.e., how you choose models and how you input them into a project) during the preproduction/previs phase. It will allow you to identify problems and to fix them on set.

Learning outcomes are to understand why optimisation is important and be able to own and look after the speed of scene (i.e., budget accordingly, so you can use the processing power in the most effective manner).

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USING BLUEPRINTS

MODULE 5

In this module, you will learn:

- *Blueprint Introduction*
- *How To Code*
- *Tick*
- *Simple Animation*
- *Brick Tool*

This module will enable you to connect-up the logic to different parts of your scene, allowing you to control elements, or trigger effects, or to simply improve your workflow.

Learning outcomes will allow you to understand the basic functionality of how to program and where to program within Unreal Engine.

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ON SET TECHNICAL ARTIST
(LEVEL 2)
OSTA

Our On Set **Technical Artist Level 2** Course provides a breakdown of the most common on set skill sets and tasks that you are going to be required to do as a Technical Artist.

You will learn how to set up and connect the LED wall and camera to Unreal Engine. How to match the real-world environment to the virtual environment and understand common fixes and tweaks you will need to be able to carry out on set.

These job-ready skills will give you the requisite skills to work as a technician (i.e., you will be able to do the hands-on work required. Our Levels 3 and 4 will provide the hands-on, practical skills.

By the end of this course, you will be able to take on a junior roll as a Technical Artist with good foundational knowledge.

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PRE-PRODUCTION WORKFLOWS
FOR VIRTUAL PRODUCTION

MODULE 1

In this module, you will learn:

• *Workflow / Production Design Case Studies*

This module will enable you to understand the overall pre-production process and how Virtual Productions move into production design and pre-vis (pre-visualisation).

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CAMERAS IN UNREAL
MODULE 2

In this module, you will learn:

• *Cameras in Unreal*

This module will enable you to understand how to add and set up a camera within Unreal Engine, and more importantly understand what settings to leave alone and what to change.

Learning outcomes will allow you to demonstrate how to add cameras effectively to scenes that won't cause future problems or override settings, which need to be controlled elsewhere.

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IMAGE EFFECTS AND COLOUR CORRECTION

MODULE 3

In this module, you will learn:

• *On Set Colour*

This module will enable you learn how to adapt and edit the virtual world so that it can match the real-world, so that in-camera footage looks consistent.

Learning outcomes will help you understanding where all the different settings in Unreal Engine are, where the best place to alter them are and the best set of tools use to control specific elements of a scene.

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MATCHING VIRTUAL WORLD TO REAL-WORLD

MODULE 4

In this module, you will learn:

- *World building for Virtual Production*

This module will enable you to understand a workflow or pipeline for how you would produce a virtual set. This includes placeholders for real-world items, as well as how to lay out and apply materials, how to add assets and positioning correctly.

Learning outcomes will help you understand one possible pipeline- from comprehension to delivery - of how a virtual set might be created.

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N D I S P L A Y

MODULE 5

In this module, you will learn:

- *Introduction to nDisplay*
- *Configuring nDisplay*
- *Camera Tracking*
- *Switchboard*

This module will enable you to set up an Unreal Engine project in order to be used with an LED wall. Also, it will allow you to understand how to start, close down and control the projects during a live shoot.

Learning outcomes will help you understand how to run the Technical Artist desk, be the key contact who switches the software on/off and runs the Unreal Engine desk.

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POST PROCESSING & CAMERA SETTINGS

MODULE 6

In this module, you will learn:

- *Post Process in Editor*
- *Colour Correction in Editor*
- *How to do Colour Correction in a Material*

This module will enable you understand the post processing volume and where all the different settings can be found in order to control the image that will be captured on camera.

Learning outcomes will give you the ability to manipulate and update the Unreal Engine footage to match the real-world.

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INTRO TO REAL TIME SEQUENCER

MODULE 7

In this module, you will learn?

• *Introduction to Sequencer*

• *Triggering a Sequence*

This module will enable you to have a good understanding of what sequencer is and does, and what different tasks it might fulfil in a Virtual Production shoot.

Learning outcomes will enable you to put together a sequence and programmatically trigger it.

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Our **Virtual Production for Advertising Producers** Course provides an understanding of how the Virtual Art Department (VAD)works, producer's workflows and important budgetary cost savings for VP.

VIRTUAL PRODUCTION
FOR ADVERTISING

PRODUCERS

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V I R T U A L   P R O D U C T I O N :   A   P R O D U C E R ' S
P E R S P E C T I V E

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- *Example schedule of "on set week" including activities & crewing.*

- *Costs v Savings compared to traditional production.*

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Learning outcomes will allow you to be confident as a Producer working on a Virtual Production set.

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UPSCALE**KITCHEN**

3D
ENVIRONMENT

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Our **Virtual Production for Directors** Course provides an understanding of key technologies that underpin VP, how to work with the Virtual Art Department (VAD) and what to expect on set.
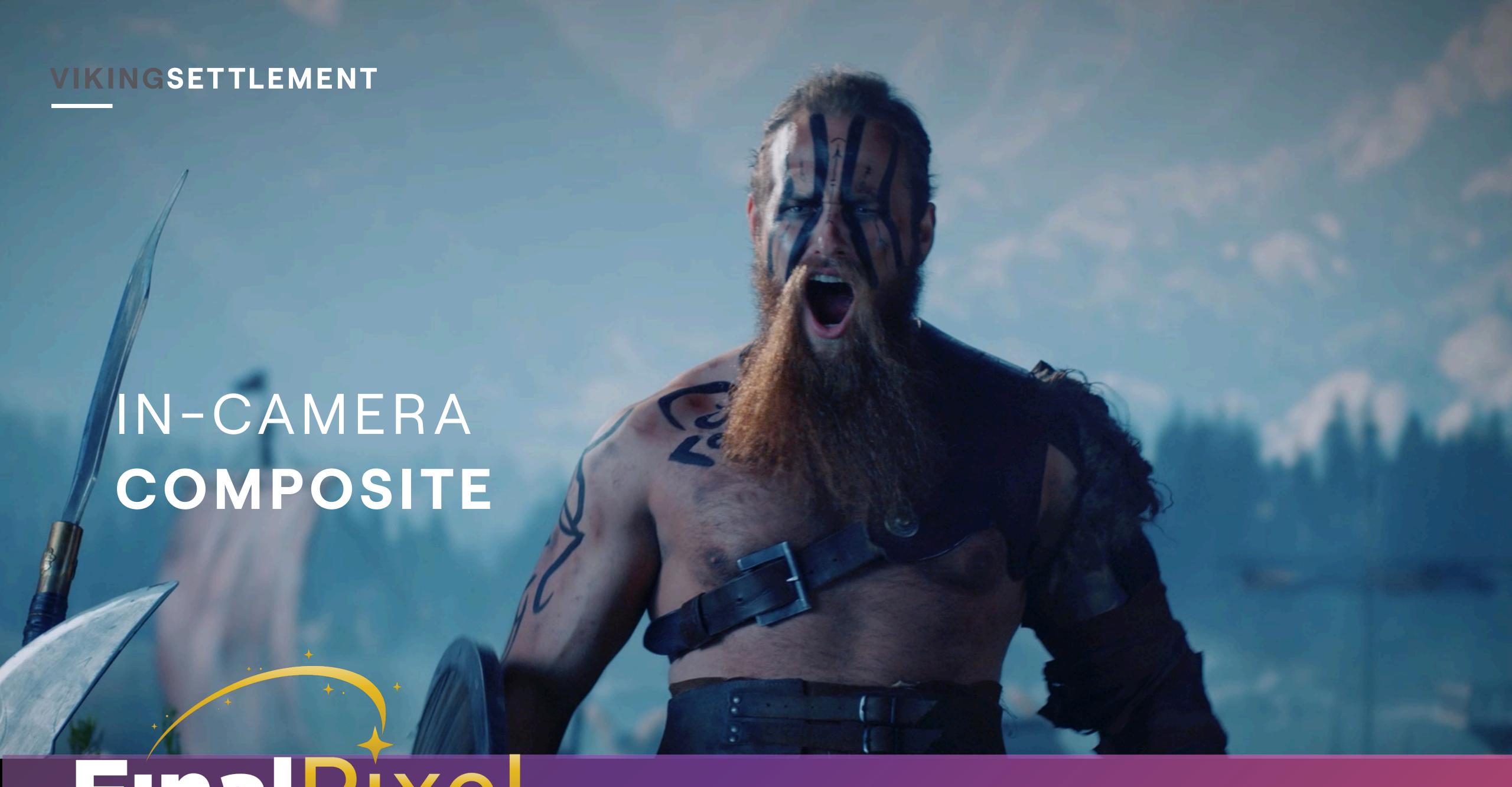
VIRTUAL PRODUCTION FOR
DIRECTORS

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DIRECTOR'S
PERSPECTIVE

VIRTUAL PRODUCTION: A DIRECTOR'S
PERSPECTIVE

MODULE 1

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- *Working with a Virtual Art Department.*

- *How traditional production roles have changed.*

- *What to expect on-set.*

- *Real-world case studies*

- *Advantages, disadvantages and common pitfalls.*

This module will enable you understand key technologies that underpin VP, how to work with the VAD and what to expect on set.

Learning outcomes will allow you to be confident as a Director working on a Virtual Production set.

VIKINGSETTLEMENT

IN-CAMERA
COMPOSITE

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INTRODUCTION TO VIRTUAL PRODUCTION FOR ADVERTISING

Our **Virtual Production for Advertising c**ourse provides :

- Learn the basics – what is it, how does it work?
- What are the benefits for advertising projects?
- How to choose appropriate projects for Virtual Production.
- What are the differences vs traditional production?
- The Virtual Art Department and new approaches to creative.
- See real-world examples and case studies
- How to use VP for production problem solving.
- Common pitfalls.

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1920S ENGLAND

3D
ENVIRONMENT

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Our **Virtual Production and Sustainability** Course provides you with an understanding of the current problems facing the industry, what tools are available to tackle climate change and industry resources to supports sustainability within Virtual Production.

VIRTUAL PRODUCTION AND

SUSTAINABILITY

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V I R T U A L   P R O D U C T I O N   A N D
S U S T A I N A B I L I T Y

MODULE 1

In this module, you will learn:

- *What is sustainable production?*

- *Overview of current problems: calculators, local regulations…*

- *Latest recommendations in sustainable film making.*

- *Resources & solutions.*

- *Top 3 reasons VP is a good choice for sustainable film making.*

- *How to push for VP including how to get creatives on board.*

- *What needs to happen to move VP forward as a sustainable option.*

This module will enable you to understand the current problems facing the industry, what tools are available to tackle climate change and industry resources to supports sustainability within Virtual Production.

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BELOWGROUND

IN-CAMERA
COMPOSITE

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UNREAL ENGINE EXPERT: OPTIMISATION FOR VIRTUAL PRODUCTION

Our **Optimisation for Virtual Production** course provides a breakdown of performance optimisation, which basically means making your scene run as fast as it can for Virtual Production.

You will learn why it's important to have to reach the sufficient frame rate when your scene is displayed on the LED wall, and utilising real-time ray tracing features.

These job-ready skills will give you the requisite skills to work as an Unreal Engine Technical Artist in Virtual Production and understand the render pipeline process of displaying 3D content on your screen

By the end of this course, you will be able to take on a approach the Technical Artist with good expert knowledge.

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PERFORMANCE OPTIMISATION
THEORY

MODULE 1

In this module, you will learn:

- *Render Pipelines*

- *Threads – Theory*

- *CPU Game Thread*

- *CPU Draw Thread*

- *GPU Thread Theory*

- *RAM-VRAM*

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OPTIMISATION IN PRACTICE

MODULE 2

In this module, you will learn:

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REGIONAL AIRPORT

3D
ENVIRONMENT

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