SUMMER OF UNREAL

CURRICULUM REVISION V.2

The Summer of Unreal course is designed to deliver a workshop every morning 9:30am until 12:30pm BST, leaving afternoons free to work on your group project, practice or get on with your daily life. You have lots of time to collaborate in your teams.

WEEK 1

This week is about building a foundation of what Unreal is, how it works and what impact it can have on your workflow. By the end of this week, you will understand the process of asset ingestion with shaders and lighting and will be able to use this to arrange objects in your scenes to create simple sets, ready to let your animation run wild!

MONDAY 26TH JULY

Introduction: why use Unreal?

› Installing
› Epic Games Launcher
› Training resources
› Explore the interface, windows and user environment
› Viewports
› Transformations, units and measurements
› Navigation and basic usage of the editors
› FBX interoperability
› Mesh triangle counts
› Clean mesh construction

MAIN TUTOR
Christian Avigni,
Escape Studios

TUESDAY 27TH JULY

Materials

› Understanding the PBR workflow
› Master materials and material instances
› Texture editor
› Texture formats
› Mipmaps
› Texture groups
› Material editor UI
› Node based workflow
› Material functions
› Shader complexity
› Advanced techniques

MAIN TUTOR
Christian Avigni,
Escape Studios

WEDNESDAY 28TH JULY

Expert Showcase Day

Phil Stewart, Head of Real Time at Blue Zoo will explain how they use the capabilities of Unreal in their work

AND/OR

A masterclass from a leading European school

MAIN TUTOR
Phil Stewart,
Blue Zoo

THURSDAY 29TH JULY

Lighting in Theory and Practice

Get to grips with:

› Light mobility (static vs real-time)
› Lightmass (lightmap control and baking)
› Lighting types
› Controlling light properties
› HDR lighting and backdrop
› Reflections
› IES Profiles
› Light functions

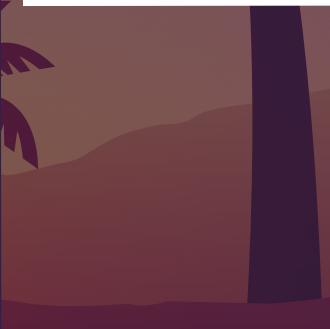**MAIN TUTOR**
Kevin Nally,
Escape Studios

FRIDAY 30TH JULY

PROJECT DAY: Intro to the project

Introduction to the team project and teams

ESCAPE STUDIOS · CRATER TRAINING CENTER · laSalle we love challenge · Screen Skills Ireland · ARTFX SCHOOL OF DIGITAL ARTS · The Animation Workshop VIA University College · HOCHSCHULE DER MEDIEN · UNREAL ENGINE

SUMMER OF UNREAL

CURRICULUM REVISION V.2

The Summer of Unreal course is designed to deliver a workshop every morning 9:30am until 12:30pm BST, leaving afternoons free to work on your group project, practice or get on with your daily life. You have lots of time to collaborate in your teams.

WEEK 2

This week takes a further look into how to light scenes for different scenarios and how to leverage the power of Unreal for its real-time capabilities creating more complex setups. As well as this, you will also learn how to use Unreal for Animation playback and Cinematography. By the end of this week you can start building your shots and edits directly in UE.

MONDAY 2ND AUGUST

Practical Lighting

› Lighting in different scenarios (stylised and realistic)
› Why do you use certain lighting set-up over others in certain situations?
› Raytracing
› View modes and optimisation
› Sun positioning and sky
› Exposure control
› Fog and volumetric lighting
› Lightmap settings in depth
› Lumen UE5

MAIN TUTOR

Kevin Nally,
Escape Studios

TUESDAY 3RD AUGUST

Expert Showcase Day 2: Lighting/Engine Optimisation

A day to listen to professionals and companies across Europe tell you how they already use Unreal in their workflow

AND/OR

A masterclass from a leading European school

WEDNESDAY 4TH AUGUST

Using Unreal for Animated Sequences

› Introduction
› What is Sequencer?
› Sequencer interface
› Cinematic views
› Organising sequences
› How do cameras work?
› Using different tracks types

MAIN TUTOR

Michael Davies,
Escape Studios

THURSDAY 5TH AUGUST

Using Unreal for Animated Sequences – Advanced

› Animation import/export
› Skeletal animation vs geometry cache
› Blending animations and properties
› Using spawnable objects
› Recording to Sequencer
› Rendering out cinematics

MAIN TUTOR

Michael Davies,
Escape Studios

FRIDAY 6TH AUGUST

PROJECT DAY:

Teams spend the time working on their project and trying out the techniques they have learnt

SUMMER OF UNREAL

CURRICULUM REVISION V.2

The Summer of Unreal course is designed to deliver a workshop every morning 9:30am until 12:30pm BST, leaving afternoons free to work on your group project, practice or get on with your daily life. You have lots of time to collaborate in your teams.

WEEK 3

You now have a clear idea how Unreal works and how to set up your animation shot directly within Unreal. This week improves the visual quality of your animations. It looks at the range of free content you can use like Quixel Bridge and Megascan data. By the end of the week you will have all the tools necessary to create and export your 'final' animations.

MONDAY 9TH AUGUST

Expert Showcase Day 3: Rigging

Face Rigging For Realtime Mocap: A Case Study by Alessandro Boschian Pest, CTO, Minimo VFX, Barcelona/Las Palmas

GUEST
Alessandro Boschian Pest, CTO at **Minimo VFX**, Barcelona/Las Palmas

TUESDAY 10TH AUGUST

World building: Environments

> Environment assets from a variety of sources
> Materials and create material functions
> Master materials and material instances
> Object placement and layout basics
> Foliage volumes and lighting systems
> Terrain shader
> Organic and man-made assets
> Creating atmosphere with fog, lighting and particles

MAIN TUTOR
Carlos Ulloa, Epic Games

EVENING GUEST
Luis Cataldi, Lead Evangelist at **Quixel/Epic Games**

WEDNESDAY 11TH AUGUST

Creating Photoreal Sequences

> Using Megascans and other apps
> Quixel Bridge
> Using phones and plugins for live cameras
> Real-time cinematography
> Recording live camera data for animation playback

MAIN TUTORS
Martin Bell, Previs Artist
Clem Gharini, Cinematography

THURSDAY 12TH AUGUST

Rendering

> Taking your final pixels out of Unreal
> Post process control
> Movie render queue
> Rendering custom passes
> Raytracing
> Hybrid workflows

GUEST
Darko Subotin, 3D Generalist, Tutor and Professor at **Crater Training Center**

FRIDAY 13TH AUGUST

PROJECT DAY:

Teams spend the time working on their project and trying out the techniques they have learnt

ESCAPE STUDIOS

laSalle
we love challenge

Screen Skills Ireland

ARTFX
SCHOOL OF DIGITAL ARTS

CRATER TRAINING CENTER

The Animation Workshop
VIA University College

HOCHSCHULE DER MEDIEN

UNREAL ENGINE

SUMMER OF UNREAL

CURRICULUM REVISION V.2

The Summer of Unreal course is designed to deliver a workshop every morning 9:30am until 12:30pm BST, leaving afternoons free to work on your group project, practice or get on with your daily life. You have lots of time to collaborate in your teams.

WEEK 4

We look beyond animation to push your shots further. This week you will take a deeper dive to use advanced functions to increase the possibilities available to you when building animated worlds. You also learn how to utilise real-time particle system Niagara, as well as look at how UE5 will change the real-time world forever.

MONDAY 16TH AUGUST

Unreal 'under the hood'

> CPU vs GPU
> Bound and frame rate
> Draw calls
> Stat commands
> Stat window
> GPU profiler
> Unreal frontend
> RenderDoc
> Viewmodes for diagnostics
> Fixing issues
> How does this work in UE5

TUESDAY 17TH AUGUST

Niagara!

> Niagara UI and emitter/ system heirarchy explained
> Building our first Particle Material and first Sprite based components
> Adding mesh particles and GPU particles
> Converting the effect from a looping system to burst
> Animating and triggering with Sequencer
> Local vs Global particles

MAIN TUTOR

Joseph Azzam, Tech Evangelist at **Epic Games**

WEDNESDAY 18TH AUGUST

Expert Showcase Day 4

A day to listen to professionals and companies across Europe tell you how they already use Unreal in their workflow

AND/OR

A masterclass from a leading European school

GUEST

Nicky Gogan, **Piranha Bar**

EVENING GUEST

Tom Shannon, Tech Artist at **Epic Games**

THURSDAY 19TH AUGUST

PROJECT DAY:

Now the Teams need the time working on their project to integrate and try out all the techniques they have learnt

FRIDAY 20TH AUGUST

Project Final Showcase

It's here! Today we celebrate all the great work and progress made. We look at work, receive advice on what to do next from some great industry representatives, and hand out certificates and just have a great time.