Real-time Animated Storytelling

Scope & Sequence

In this introductory course from Unity, students will learn to create an animated Scene as they develop movie-making skills. During the course, students will progress through a series of **Units** with the instructor and practice their new skills with provided example projects. They will complete **Creative Challenges** and **Quizzes** for each of the Units to solidify and expand their learning.

Students will learn how to create Scenes, design sets, animate characters, move cameras, set up lighting, create special effects, add audio, add titles, and render their work — all without having to write a single line of code. The foundational skills they'll develop around 3D modeling, environment creation, animation, and cinematography align with technical objectives and best practices employed by proficient Unity developers. Students will progress from being beginners with little or no experience to capable Unity developers. By the end of the course, they will be presented with a **Final Project** challenge to create an open-ended personal project that demonstrates their new Unity skills. Students will then be ready to confidently apply those skills to create their own animated movie.

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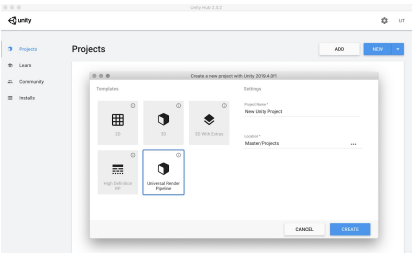
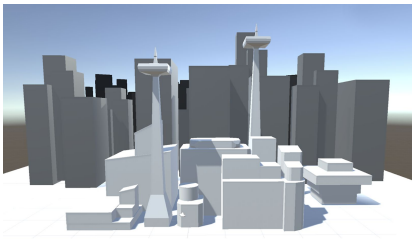
Unit 1: Getting Started with Unity

UNIT SCOPE	
In this unit, students will get set up and started with Unity. They'll download the Unity Hub as well as the Unity Editor, sign in with their unique Unity ID, and create a new project using Unity's Universal Render Pipeline (URP).	

UNIT SEQUENCE	
Lesson 1.0 Course Summary	In this lesson, students will familiarize themselves with the course and get an overview of the upcoming creative challenges, as well as learn more about the provided 3D assets.
Lesson 1.1 Getting Started with Unity	Let's begin! This lesson will cover downloading and installing the Unity Hub, installing Unity, and creating a Unity ID. It will also cover creating a new project in Unity's Universal Render Pipeline.
Lesson 1.2 Creating your First Project	In this lesson, students will open and prepare their first project in Unity's Universal Render Pipeline and get the new project set up and ready for use in Unit 2.

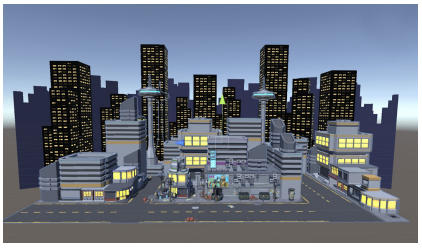
Unit 2: Real-time Pre-visualization

UNIT SCOPE	
In this Unit, students will learn about pre-visualization in Unity by modeling a city based on a reference sketch. In the process, they'll learn about configuring the look of the Editor, working with primitives, creating ProBuilder shapes, creating Materials, and adjusting lighting.	

UNIT SEQUENCE	
Lesson 2.1 Arranging the Editor Layout to Suit Your Needs	In this lesson, students will learn how to arrange the Unity Editor so they can more easily prototype their pre-vis Scene. They'll learn about window Layouts, including grouping and docking windows, as well as how to customize window Layouts.

Lesson 2.2 Creating Primitive Objects and Arranging Them	In this lesson, students will begin bringing a two-dimensional sketch to life in 3D by placing a few 2D background images and then laying out the surrounding city buildings using simple geometric objects known as primitives.
Lesson 2.3 Adding Probuilder Shapes to the Set	In this lesson, students will learn how to create more complex shapes using ProBuilder. While primitive objects serve as a good starting point for constructing a cityscape, ProBuilder will enable them to add geometric refinements, such as edges with bevels, or sophisticated architectural geometry containing curves.
Lesson 2.4 Creating and Altering Materials to Establish a Look	In this lesson, students will learn how to create basic Materials, set color properties, and apply the Materials to various objects organized within their Scenes.
Lesson 2.5 Adjusting the Directional Light	In this lesson, students will learn how to use Directional Lighting to change the mood of a Scene. This lighting type is meant to behave like the sun and can dramatically change a Scene from day to night or dawn to dusk.
Unit 2 Quiz	The Unit 2 Quiz will assess students' knowledge of the content so far, including pre-visualization, organizing primitive objects, using Materials, and adjusting the Directional Light.
Unit 2 Creative Challenge	In the first Creative Challenge, students will use their new pre-visualization skills to create and model a cityscape using basic building shapes, Materials, and lighting.

Unit 3: Environment, Modeling, and Set Dressing

UNIT SCOPE	
In Unit 3, we'll fast-forward to a more visually developed Scene so students can learn how to assemble an environment using more refined art assets provided. They'll model a new prop for the set directly inside Unity and add ambiance to the set with lighting and emissive Materials.	
UNIT SEQUENCE	

Lesson 3.1 Assembling an Environment	In this lesson, students will begin assembling the city based on a more refined sketch, using models provided by the creative team based on the pre-visualized environment.
Lesson 3.2 Creating Props with Probuilder	In this lesson, students will learn more about ProBuilder by modeling a traffic cone for use in the set. In the process, they'll learn about creating shapes, extruding, adding edge loops, and using Materials to make the cone more detailed and realistic.
Lesson 3.3 Adding Basic Lighting to a Set	There are various streetlights, lanterns, and other props in our Scene. In this lesson, students will learn how to add light sources to the props so they seem like they're emitting light. The lights will be visually coherent (adhering to the same color scheme, for instance) and aesthetically pleasing.
Lesson 3.4 Adjusting Emissive Materials	In this lesson, students will learn about emissive Materials and how to adjust their color properties. They'll learn how to apply emissive Materials to certain objects in the Scene, such as building windows, to give the objects a luminous, glowing quality.
Unit 3 Quiz	The Unit 3 Quiz will assess students' knowledge of the topics covered so far, including creating an environment and 3D modeling.
Unit 3 Creative Challenge	In this Unit's Creative Challenge, students will use the provided props and create new props to set-dress a new area of the Scene.

Unit 4: Animation

UNIT SCOPE	
In this Unit, students will learn the basics of creating animations in Unity using the Timeline — from animating props to animating Generic and Humanoid characters. Then they'll learn how to create dailies by recording their work-in-progress to a .mp4 movie file.	

UNIT SEQUENCE	
Lesson 4.1 Creating a Timeline and Adding Keyframed Animation Tracks	The Timeline is a powerful tool that allows creators to make sequenced animations in Unity. In this lesson, students will learn how to create a master Timeline, configure windows for animation, animate objects within Unity, and organize Animation Tracks.
Lesson 4.2 Configuring Generic Rigs and Adding Animation Clips	In this lesson, students will learn how to configure a generic character (in this case, a cat). They'll configure the cat's Animation Clips and add them to the Timeline where they'll learn how to loop and blend the Animation Tracks.
Lesson 4.3 Configuring Humanoid Rigs and Adding Animation Clips	We've got cars, security cameras, and a cat moving about in our Scene. Now it's time to add some pedestrians walking along the sidewalks. In this lesson, students will explore the Humanoid rig to add and animate two characters in the Scene.
Lesson 4.4 Creating Dailies	Now that students have created animations, they'll want to be able to share them. In this lesson, they'll learn how to create quick dailies in .mp4 format. "Dailies" is a term from the film industry that refers to short recordings that can be viewed right away by a creative team. Once they've created a daily of their work, they'll be able to share it with their fellow students, instructor, or creative team to get feedback.
Unit 4 Quiz	The Unit 4 Quiz will assess students' knowledge of the content presented so far, including the Timeline, Animations Tracks, and character rigs.
Unit 4 Creative Challenge	In this Unit's Creative Challenge, students will create their own unique short animation.

Unit 5: Cinematography

UNIT SCOPE	
In this Unit, students will learn how to film animation by composing shots with Cinemachine, Unity's go-to cinematics authoring tool. They'll then explore how to sequence, edit, and blend shots in the Timeline to animate cameras. By the end of this Unit, they'll be able to compose and capture multi-camera shots in Unity.	

UNIT SEQUENCE	
Lesson 5.1 Framing Shots with the Main Camera	This lesson is a deep dive into using Unity's Main Camera and will provide students with a solid foundation of knowledge about framing shots and moving the camera.
Lesson 5.2 Getting Started with Cinemachine	In this lesson, students will learn how to install Cinemachine, create their first virtual camera, frame a shot, and animate the camera.
Lesson 5.3 Using Cinemachine to Create Multi-Camera Shots	In this lesson students will learn how to add additional Virtual Cameras to their Scenes, animate them to create a pan and push-in effect, and blend between Virtual Camera shots.
Unit 5 Quiz	The Unit 5 Quiz will assess students' knowledge of the topics covered so far, including cameras and Cinemachine.
Unit 5 Creative Challenge	In this Unit's Creative Challenge, students will reshoot the action in the Scene with their own cinematic shot design.

Unit 6: Lighting and Post-Processing

UNIT SCOPE	
In this Unit, students will learn about lighting and post-processing in Unity. This Unit is important because so much of the visual fidelity and ambiance of the project happens here. They'll learn about lighting, shadows, important settings related to lighting and shadows, and post-processing techniques essential to creating mood in a Scene and style in camera shots.	
UNIT SEQUENCE	
Lesson 6.1 Adding Visual Fidelity through Lighting	We'll dive deep into the nuances of Unity lighting in this lesson, beginning with adding Point Lights and Spotlights to different areas of a set to create mood and ambiance.
Lesson 6.2 Additional Lighting Techniques	In this lesson, students will continue refining the visual fidelity of their Scenes by adding street lighting through Prefabs, working with the Light Explorer, controlling lighting with activation tracks, and adding fog.

Lesson 6.3 Applying Post-Processing Effects to the Scene	In this lesson, students will learn how to ensure their projects are set up for adding post-processing effects. They will then learn how to add effects, such as Bloom, Tone-Mapping, Color Grading, and Motion Blur.
Lesson 6.4 Adding Post-Processing Effects per Camera Shot	In this lesson, students will learn how to add post-processing effects to cameras to achieve a distinct look and style without affecting an entire Scene. This lesson will cover adding a vignette effect, as well as adding and animating depth of field over time.
Unit 6 Quiz	The Unit 6 Quiz will assess students' knowledge of the topics covered so far, including lighting and post-processing.
Unit 6 Creative Challenge	In this Unit's Creative Challenge, students will put together a new lighting scheme for the animation and adjust the camera's lens properties to reimagine the story.

Unit 7: Effects, Audio, Titles, and Final Render

UNIT SCOPE	
In this Unit, students will learn about Unity's visual effects tools, including the Particle System and the VFX Graph. They'll also learn how to work with sound effects and music. Finally, they will learn how to add titles and render a high-resolution master version of their project.	
UNIT SEQUENCE	
Lesson 7.1 Creating Visual Effects	In this lesson, students will learn how to create a smoke effect using the Particle System and a spark effect using the VFX Graph.
Lesson 7.2 Working with Audio	In this lesson, students will learn how to add audio to the Timeline, including music and sound effect tracks.
Lesson 7.3 Creating Titles	In this lesson, students will learn how to add titles to their project.
Lesson 7.4 Final Render	In this lesson, students will learn how to export a high-resolution movie and image sequence that they can later compile using a non-linear video editing tool.
Unit 7 Quiz	The Unit 7 Quiz will assess students' knowledge of the topics covered so far, including Unity's Particle System, the VFX Graph, adding audio,

	and rendering.
Unit 7 Creative Challenge	In this Unit's Creative Challenge, students will add their own visual effects to the Scene.

Final Project

Create Your Own Real-time Animation	In the final challenge, students will create an open-ended personal project. This will give them the opportunity to demonstrate their creativity and test out their new Unity skills.