



Real-time Animated Storytelling



Course Syllabus

In this official Unity introductory course, students will learn Real-time Animated Storytelling, allowing them to build their own 3D animations using cutting-edge technology. They will learn how to create animated Scenes, employing techniques used in movie making. They will learn pre-visualization skills, as well as Scene creation, set design, how to animate characters, virtual cinematography, how to incorporate lighting and special effects, how to add audio and titles, rendering, and more — all without needing to write a single line of code.

The skills they will learn align with technical objectives and best practices employed by proficient Unity developers. They will progress from beginners to capable Unity developers with a foundational understanding of 3D modeling, how to build an environment, animation, and cinematography. By the end of the course, students will be ready to apply their new skills as artists and storytellers, leveraging one of the most powerful new technologies to bring their ideas to life. With practice, they'll develop the confidence and ability to create their own animated stories.

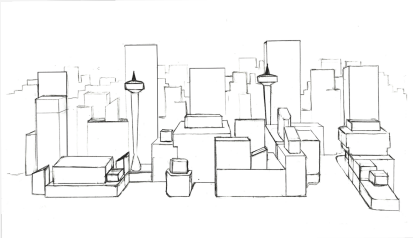
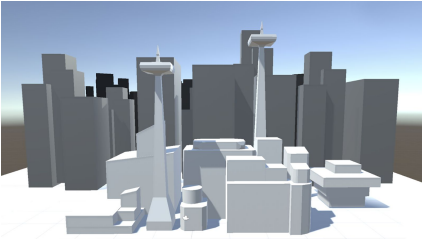
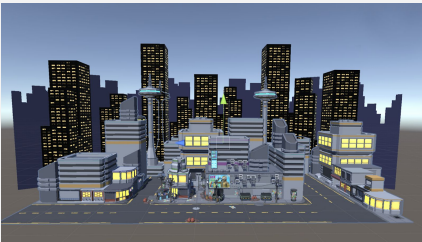
Objectives

Unity Skills	Students will develop the confidence and ability that, with practice, will allow them to create designed sets and animated sequences in Unity.
Project Management	As students work through the lessons, the project examples will guide their learning, helping them gain proficiency in managing a project from start to finish.
Set Design and Modeling	Students will learn how to create and model an environment with simple geometry. They will gain experience in designing a Scene, including placement of background and foreground sets and they'll learn how to develop buildings, props, and Materials that have various properties, including color.
Cinema Graphics	Students will learn how to establish and control Virtual Cameras in a Scene with a wide range of cinematographic settings and applications. They will also learn how to make Virtual Camera adjustments that are equivalent to real-world camera properties.
Animation	Students will learn how to animate characters, cameras, special effects, and more to produce dynamic, high-quality rendered videos.

Requirements

Knowledge & Skills	Students don't need any prior knowledge of programming or Unity development. A background in animation, graphics, or film may be helpful, but is not required.
Hardware & Software	Students are required to have a computer capable of running Unity.
Duration	Whether students are taking the course with an instructor or independently, the full course will take 35 to 50 hours.

Course Structure

Unit	Subject	Summary	Assessments	Milestones
1	Getting Started with Unity 	Unit 1 will cover getting set up with Unity. Students will learn how to download and install the Unity Hub and the Unity Editor. They will create a Unity ID and then launch a new project using Unity's Universal Render Pipeline (URP).		Opening the Unity Hub Signing in with a Unity ID Installing the Unity Editor Creating a new URP project
2	Pre-visualization 	Unit 2 will cover pre-visualization, including modeling a city based on a reference sketch. They will learn how to configure the look of the Editor, work with primitives and ProBuilder shapes, create Materials, and adjust the Directional Light.	Unit 2 Quiz Unit 2 Creative Challenge	Setting up the Layout Creating and arranging primitive objects Using ProBuilder Creating and altering Materials Adjusting the Directional Light
3	Environment, Modeling, and Set Dressing 	Unit 3 will cover developing a more visually complex Scene. Students will learn how to build an environment with modeled props, set up lighting, and work with emissive Materials.	Unit 3 Quiz Unit 3 Creative Challenge	Assembling an environment Creating props with ProBuilder Adding basic lighting to a set Adjusting emissive Materials

Animation



Unit 4 will cover the basics of creating animations in Unity using the Timeline. Students will learn how to animate props as well as Generic and Humanoid characters.

Unit 4 Quiz

Unit 4
Creative
Challenge

Creating a Timeline
Adding a Keyframed Animation
Configuring a Generic Rig and adding Animation Clips
Configuring a Humanoid Rig and adding Animation Clips
Creating dailies

4

Cinematography



Unit 5 will cover composing camera shots using Cinemachine. Students will learn how to sequence, edit, and blend shots in the Timeline, as well as animate multiple cameras.

Unit 5 Quiz

Unit 5
Creative
Challenge

Framing shots with the Main Camera
Working with Cinemachine Virtual Cameras
Developing multi-camera shots

5

Lighting and Post-Processing




Unit 6 will cover lighting and post-processing. Students will learn how to enhance visual fidelity through the use of lighting, shadows, and post-processing effects, such as adjusting color and depth of field.


Unit 6 Quiz

Unit 6
Creative
Challenge

Creating custom lighting
Adjusting and fine-tuning multiple light sources
Applying post-processing effects to the Scene
Applying effects to individual camera shots

6

7	Effects, Audio, Titles, and Final Render 	Unit 7 will cover visual special effects, audio, titles, and rendering a final master. Students will learn how to create effects using the Particle System and VFX Graph. They will also learn how to work with audio and sound effects, create titles, and render a high-resolution video.	Unit 7 Quiz Unit 7 Creative Challenge	Creating visual effects Working with audio Creating titles Final render

8	Final Project: Create Your Own Real-time Animation 	The final challenge is an open-ended project assigned at the end of the course. It challenges students to demonstrate their knowledge of the course content through the creation of a personal project.	Final Project submission	Representative of elements taught throughout the course

Grading and Rubrics

Overview

- **35% Unit Progression** (7 units @ 5% each)
- **20% Creative Challenges** (5 Creative Challenges @ 4% each)
- **12% Quizzes** (6 quizzes @ 2% each)
- **33% Real-time Animation Challenge** (1 personal project @ 33%)

* Note that these weight values are suggestions only.

Unit Progression

Weight	35% Unit Progression (7 units @ 5% each)
Description	Students will sequentially follow each Unit's lessons, producing the same results as the instructor, but with their own creative choices when instructed.
Purpose	Students need to complete all of the lessons to complete the course.

4 = Excellent

3 = Good

2 = Fair

1 = Unsatisfactory

The unit's projects function without any error and operate as expected.	The unit's projects function with <i>minimal</i> error and operate <i>mostly</i> as expected.	Projects have <i>some</i> functionality and there may be errors that require attention.	The unit's projects don't perform as expected, or are incomplete. There are errors that require attention.
Project Assets and Hierarchy elements are well-organized with a clean and structured quality.	Project Assets and Hierarchy elements are <i>mostly</i> structured and well-organized.	Project Assets and Hierarchy elements are <i>mostly</i> organized, though some could be better structured.	Project Assets and Hierarchy elements are <i>disorganized</i> or are <i>not</i> easily accessible.

Creative Challenges

Weight	20% Creative Challenges (5 Creative Challenges @ 4% each)
Description	The Creative Challenges are assigned to students at the end of each unit. They incorporate the unit's lessons by assigning an achievable goal with simple open-ended and clear objectives.
Purpose	When working on Creative Challenges, students will have the opportunity to solidify their learning. They are given a fun and achievable challenge consistent with the progression of each Unit, which is a great way to practice with the knowledge and techniques presented. They are able to develop their environments and animations using their own aesthetic and creative choices.

4 = Excellent	3 = Good	2 = Fair	1 = Unsatisfactory
<p>The Creative Challenge Projects definitively demonstrate mastery of the content presented in each Unit.</p> <p>Assigned goals of the challenge are <i>clearly</i> met, their features are distinct, and there exists evidence of additional proficiency and creativity.</p>	<p>The Creative Challenge Projects <i>mostly</i> demonstrate knowledge and proficiency of the content presented in each Unit.</p> <p>Assigned goals of the challenge are <i>mostly</i> met, and their features are evident.</p>	<p>The Creative Challenge Projects demonstrate <i>some</i> evidence of learning, while some of the skills exhibited may still be emerging.</p> <p>Assigned goals of the challenge are <i>partially</i> met.</p>	<p>The Creative Challenge Projects demonstrate <i>little to no</i> evidence of learning, or is incomplete.</p> <p>Assigned goals of the challenge are <i>not</i> met.</p>

Quizzes

Weight	12% Quizzes (6 quizzes @ 2% each)
Description	Each quiz features several multiple-choice questions covering essential concepts presented throughout the lessons.

Purpose

Each quiz offers an opportunity to assess students' learning and measure their knowledge of the course topics.

4 = Excellent**3 = Good****2 = Fair****1 = Unsatisfactory**

Perfect score

Most of the questions are answered correctly.

Few questions are answered correctly.

No questions are answered correctly.

Final Project: Create Your Own Real-time Animation**Weight**

33% Real-time Animation Challenge (1 personal project @ 33%)

Description

The Real-time Animation Challenge is an open-ended project assigned to students at the end of the course. It challenges them to demonstrate their grasp of the course content by creating a personal project.

Purpose

The Real-time Animation Challenge is an opportunity for students to demonstrate their learning via an open-ended project. It provides a fun, creative outlet where they can show off their new Unity skills.

4 = Excellent**3 = Good****2 = Fair****1 = Unsatisfactory**

The Real-time Animation Challenge Project demonstrates mastery of the course content.

The overall goals of the challenge are *clearly* met and there's evidence of additional proficiency and creativity.

The Real-time Animation Challenge Project *mostly* demonstrates knowledge and proficiency of the course content.

The overall goals of the challenge are *mostly* met.

The Real-time Animation Challenge Project demonstrates *some* evidence of learning, while some of the skills exhibited may still be emerging.

The overall goals of the challenge are *partially* met.

The Real-time Animation Challenge Project demonstrates *little to no* evidence of learning, or is incomplete.

The overall goals of the challenge were *not* met.