

The Game Design & Development Scope and Sequences include flexible instruction options with four-week, quarter, semester, and full-year curriculum options. This scope and sequence highlights instructional options for a semester course.



Semester

Scope & Sequence

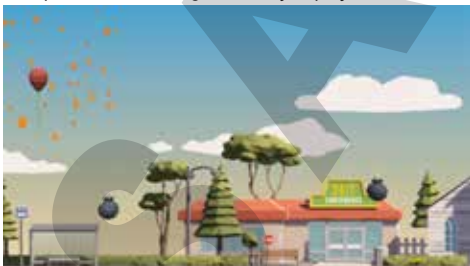


In this introductory course, students will be introduced to the Unity platform. They will explore the user interface and become familiar with working with many of the features of Unity. They will explore GameObjects, lighting, and audio before moving on to coding skills. They will learn the fundamentals of programming in the context of creating their own projects. During the course, they will create several **prototypes** along with the instructor, manage a larger **personal project** more independently, and complete **challenges and quizzes** along the way to solidify and expand their new knowledge. The skills that they learn will align with the learning objectives from the Unity Certified User exam, providing them with a foundational understanding of Unity and C# programming, preparing them for certification. In addition to these core technical competencies, students will learn how to manage a project from start to finish: come up with a concept, create a project plan, prioritize tasks, and hit milestones. By the end of the course, students will have the confidence that given enough time and resources, they can create anything they want with Unity and C#.

Table of Contents

Unit 1 - Introduction to Using Unity (Unity Essentials)	2
Unit 2 - Cameras, Materials, Audio, and Lighting (Unity Essentials)	3
Unit 3 - Programming (Create with Code)	4
Unit 4 - Computer Science Skills (Jr Programmer)	5
Unit 5 - Moving Forward in Unity (Creative Core, 2D)	6

Examples demonstrating the variety of projects students will be able to make for their personal projects



© Unity 2022

Unit 1 - Introduction to Unity (Unity Essentials)

UNIT SCOPE	
<p>In this Unit, students will be introduced to Unity for the first time as they explore the Unity Essentials Pathway. They will use Unity Hub, set up their first project, and explore how to use the basic features of the Unity interface. By the end of the unit, students will be able to open a unity project, navigate the Unity interface and primitive GameObjects and manipulate them in a variety of ways. - roughly 1.5 - 2hrs</p>	
UNIT SEQUENCE	
<p>Tutorial Welcome to Unity Essentials 20min</p>	<p>In this tutorial, you'll hear from some of the established Unity creators. You'll see and hear how various professionals are using Unity today. They started at the beginning – just like you are doing now.</p>
<p>Tutorial Get Started with Unity Hub 10min</p>	<p>This tutorial will give you all the training you need before embarking on the first project of this Pathway. You will get a quick tour of the Unity Hub, the Unity Editor, and the Package Manager so you'll be able to use these features going forward.</p>
<p>Tutorial Organize Projects in the Unity Hub</p>	<p>Keep your eyes on the road! In this lesson, you will code a new C# script for your camera, which will allow it to follow the vehicle down the road and give the player a proper view of the scene. In order to do this, you'll have to use a very important concept in programming: variables.</p>
<p>Tutorial Get Started in the Unity Editor 15min</p>	<p>In this tutorial, you'll begin working in the Unity Editor with more independence than you might have experienced with the Microgames. You will start by creating a new Unity project and 3D scene from scratch. Then, you will work with GameObjects and explore the various ways you can manipulate them in the Unity Editor.</p>
<p>Tutorial Get Started with the Package Manager 10min</p>	<p>In this tutorial, you'll review the templates available for projects. You will create a new Unity project with your chosen Unity version and template. You will learn how to open an existing project in the Hub As well as how to Update a project in the Hub, and add a project you have downloaded to the Hub.</p>
<p>Extension Learn More About Unity</p>	<p>Primers:</p> <ul style="list-style-type: none"> • Parenting: This Primer familiarizes students with the Transform hierarchy and how objects relate to one another based on their placement in the hierarchy. • Transform: This Primer familiarizes students with the transform system and coordinate space. Learners will learn how to intentionally place objects in scenes and manipulate them as needed. <p>APCSP: Unit 2 -</p> <ul style="list-style-type: none"> • Create Objects: In this lesson, learners will practice creating new types of objects. They will learn how to create different types of objects, name them, and manipulate them using the inspector. • Inspecting the Inspector: In this lesson, learners will take a closer look at the Inspector panel and learn how to use it to modify multiple objects at the same time, add custom components to objects, and m • Planning to Create: This Unit will walk learners through the basics of creating a custom game from start to finish.

© Unity 2022

Bite-sized concept primer tutorials introduce and assess core concepts of the Unity platform and creating with code.

Supporting lessons aligned to the AP Computer Science Principles extend student engagement and comprehension.