Curriculum

The curriculum is divided into seven modules. Each module teaches you new skills to successfully apply the best practices needed to develop immersive applications and experiences. You will practice your skills with various activities and, in some cases, apply the skills you learned to a game template.

Unit 1: Foundations of Game Development

Developing XR applications requires diverse skills that include design, math, physics, coding, and even understanding light. In this unit, you will learn how to create a new project in Unity and develop a 3D scene. At the end of this unit, you will be able to select, manipulate, save objects, and populate your scene using the prototypes you construct.

Unit 2: C# Scripting

The focus of this unit is on learning C#, which is a general-purpose, high-level multi-paradigm programming language. At the end of this unit, you will be able to create original scripts and components using C# and apply them to your 3D scene created in Unit 1.

Unit 3: Introduction to VR

VR allows us to simulate experiences that create a completely digital world. Through technology, mainly headsets, you can create new experiences and let users immerse themselves. In this unit, you will bring your 3D scene into VR. To reach this goal, you will learn to consider the 3D space you're working with and the interactions between the real world and your 3D space.

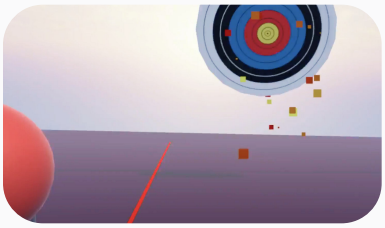
Portfolio Project: A 3D Scene

You will begin your Unity learning journey by creating a 3D scene. As you move from Unit 1 to 2, you will learn to use code to animate and create movement within your 3D scene. In Unit 3, you will transform your 3D scene into a VR experience adding interactivity capabilities.

Unit 4: Virtual Reality Interactions

You will learn to implement interactions between players and GameObjects. Doing this will create rich experiences and turn an application from a 360° video into interactive virtual reality. One of the beauties of VR is how immersive it is. In a VR game, deciding how a player interacts with the world and what they can do is an integral part of the game design process and a key component in the development process.

Portfolio Project: Food Throw



In this project, you will use one image target to release a human body and another to use an X-Ray looking glass that will allow the player to see what is inside.

Unit 5: Marker-based AR

Maker-based AR works by scanning a marker that triggers an augmented experience (whether an object, text, video, or animation) to appear on the device. In this section, you will develop your own vision of how reality and virtuality should interact. With marker-based AR, you will use images in real life as anchors for virtual objects to learn what makes a good target image and the constraints of marker-based AR. By the end of the unit, you will know how to publish your AR experience for Android and iOS devices.

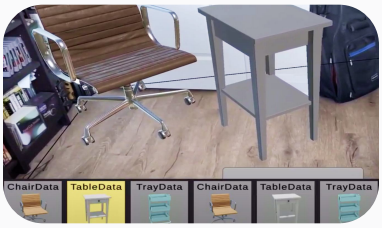
Portfolio Project: X-Ray

In this project, you will use one image target to release a human body and another to use an X-Ray looking glass that will allow the player to see what is inside.

Unit 6: Markerless AR

Now that you have experience with marker-based AR, it’s time to learn a more complex AR development technique called Markerless AR. The functionality of Markerless AR allows you to create digital applications that overlay interactive augmentations on physical surfaces without a marker. In this unit, you will create an application that allows you to place furniture around your house, change them and move them around without using a marker.

Portfolio Project: AR Home



In this unit, you will create an AR app that will let you place virtual furniture around your home and allow you to make changes based on your preferences. When creating the application, you learn to apply a Raycast and utilize the XR Interaction Toolkit.

Unit 7: Circuit Stream Game Jam

In this unit, as part of a team, you'll be working to create a game. This project does not have set requirements, so it's up to your team to determine what you want to build: a prototype, a level, an idea, or an entire game. Anything goes as long as you work together. And remember: if anyone gets stuck on something, there are always other teammates who can help out!