

# Unity Game Development using C#

Learn C# programming and how to use C# in Unity games

Duration: 5 Days

## Part 1: Introduction to C# Programming and Unity

This Module is all about starting to learn how to develop video games using the C# programming language and the Unity game engine

### Module 1: Starting to Program

Get Unity installed and configured. You'll write your first C# console application and your first C# script in Unity.

### Module 2: Data Types, Variables, and Constants

How information is stored in the computer using binary and you'll learn how data types tell us how to interpret the bits and memory and what operations we can perform on those bits. You'll also learn about the most commonly-used numeric types in C#, and you'll learn how to use the debugger to find and fix bugs in your code.

### Module 3: Classes and Objects

You'll learn the foundational concepts in the Object-Oriented (OO) paradigm. This paradigm is incredibly useful in game development, because it models our software system as a set of software objects that interact with each other. Those concepts map nicely to games, which typically include lots of game entities that interact with each other. You'll learn how to actually use classes and objects in your code as well.

### Module 4: Unity 2D Basics

In this module, you'll learn some of the basic ideas behind using Unity to develop 2D games. You'll also learn how we can make decisions in our code.

### Module 5: Selection

You'll learn about the selection control structure. Selection is really useful because it lets us decide which code we want to execute based on some condition.

### Module 6: Unity Input

You'll learn how to process mouse, keyboard, and gamepad input in Unity. This is hugely important, because doing this lets the player actually interact with the game!

### Module 7: Iteration

### Module 8: Arrays and Lists

## Part 2: C# Class Development

### Module 9: Abstraction and Console App Classes

You'll learn about abstraction, which is all about deciding what details matter (and what details don't) as we develop a solution to a particular problem. You'll also learn how to design and implement a console app class.

### **Module 10: Methods**

We'll look more closely at how methods work, including how parameters work and how we return a value from a method.

### **Module 11: Unity Classes**

You'll learn how to design and implement a class for use in a Unity game.

### **Module 12: Strings and Unity Audio**

You'll learn about strings and how we can use them in both console apps and Unity games. You'll also learn how to add sound effects to your Unity games.