

## Game Development

Red Balloon Norwich's Game Development course is to help with students engage in alternative learning and learn new skills involved with game development and learning about the video game industry.

- Creative thinking
- Problem solving
- Planning and documenting
- Programming
- Language and Communication

These are the key areas that the course will cover.

- Game design document
  - Learn about what a game design document is.
  - Create game design documents
  - Develop a game design document for own game project
- Game mechanics
  - Understand what game mechanics are
  - Game loop
  - Research different games and what mechanics they have
- Art design
  - Learn about different art styles in video games.
  - Look at 2D art
  - Create pixel art character
  - 3D art and modelling
- Animations
  - Learn about how animations work in video games
  - Keyframing
  - 2D animations sprites
  - Create character animation with 2d pixel art
    - Walking, jump, action move....
- Sound effects
  - Learn how sounds are made in games
  - Create own sound effects
- Game engines
  - Learn about what games engines are.
  - Use Unity to make different game projects
    - Program in unity with C#

- Create levels and characters
  - Understand different components on unity
- Programming
  - Learn C# basics
    - Syntax, variables, data types, type casting operators
    - Classes, functions, methods
    - if else loops
    - constructors
  - create scripts in Unity with C# to be used.
- Portfolio
  - Create a portfolio of work the student have created.

## **Projects**

### **Create Pong game project**

Pong is a table tennis arcade game featuring simple two-dimensional graphics which was first released in 1970's. In this project students will create game objects and learn how to use Unity including many key components.

Key areas for this project include

- C# scripting
- Unity box colliders
- Game objects
- User interface for scores

### **2D Coin collecting game and platform sider scroller game**

Create a short 2d game collecting coins and platform jumping. Create a character to collect coins and jump across different moving platforms. Inspired by Super Mario games

- Game design document
- C# scripting
- Input management system
- Jump mechanic
- 2D pixel art

## **Student 2D game project**

This project gives students create freedom to design and make their own game. Using what they have learnt from researching other game genres and other projects they will put their skills to work on this game project.

- Game design document
- 2d pixel art
- Animations
- Sound effects
- Game mechanics
- User feedback
- 1 to 1 Communication with teacher
- Unity
- C# programming

This course will also include AQA awards unit certificates.

- Pixel art
- Game design
- Create a pong game
- Design computer games
- Designing a basic level layout inside unity engine software

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**Learning support / game development tutor**

**Red Balloon Norwich**

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