



# SKILLS CITY

Fair Access to Technology Futures

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# GAME ENGINE SKILLS BOOTCAMP

## TAKE YOUR CAREER TO THE NEXT LEVEL



### Course Structure

You will engage in a variety of activities each week, including taught classes, workshops, personal learning and group projects. Throughout the bootcamp, you will gain knowledge and support through sessions and modules including:

|                               |                                   |
|-------------------------------|-----------------------------------|
| Guest Speaker Talks           | Mock Interviews                   |
| Unity                         | Artificial Intelligence           |
| Cloud                         | CV & Job Application Support      |
| Personal Development Sessions | Careers & Employability Workshops |
| Capstone & Industry Projects  | Interview Preparation             |

This 12-week Skills Bootcamp introduces Unity Game Engine, which is widely used in the games industry to develop interactive applications such as computer games.

Gameteck tools such as Unity Game Engine are also being adopted in more traditional industries to enhance processes and improve customer experiences. For example, Unity could be used to create a virtual hospital environment, and staff such as nurses and doctors could then go into this environment and complete training modules so that when they start working in a real-life hospital, they would have

already gained experience and knowledge without increasing the risk for patients.

In the context of Game Engine product development, other rapidly growing industries, such as cloud computing and artificial intelligence (AI), will also be covered in the bootcamp. Over time, these are becoming increasingly interlinked with the rise of AI tools such as Chat GPT and cloud streaming of interactive content.

### Sample Timetable

| Day       | 09:30 - 12:30                       | 13:30 - 16:30              |
|-----------|-------------------------------------|----------------------------|
| Monday    | Technical                           | Technical                  |
| Tuesday   | Technical / Careers & employability | Guest speaker              |
| Wednesday | Technical                           | Technical support drop-ins |
| Thursday  | Personal development                | Labs walkthrough           |
| Friday    | Technical                           | -                          |

## Week 1 | Bootcamp Induction

Introductions and managing expectations

### Introduction to Unity Game Engine

- Introduction to Unity's interface and tools
- Creating a simple 2D game scene with basic game mechanics
- Get started with Unity documentation

## Week 2 | Junior Programmer Pathway

- Create with Code 1
- Player control
- Basic gameplay

## Week 3 | Junior Programmer Pathway

- Sound and effects
- Gameplay mechanic
- User interface
- Create with Code 2

Industry project work

## Week 4 | Junior Programmer Pathway

- Introduction to real-time 3D experiences design
- Explore the sample project
- Principles of object-oriented programming
- Create a scene flow
- Implement data persistence between scenes
- Implement data persistence between sessions

Industry project work

## Week 5 | Junior Programmer Pathway

- Abstraction in object-oriented programming
- Inheritance and polymorphism in object oriented-programming
- Encapsulation in object-oriented programming
- Profile code to identify issue

Industry project work

## Week 6 | Creative Core Pathway

- Shaders and materials
- Lighting

Industry project work

## Week 7 | Creative Core Pathway

- Animation
- VFX
- Cameras

### AWS Cloud Development in Games

- Cloud development
- Games development in Cloud

Industry project work

## Week 8 | Creative Core Pathway

- Post-processing
- Audio
- User interface

Industry project work

## Week 9 | XR Development

- Virtual reality
- Augmented reality
- Digital twin

Industry project work

## Week 10 | Introduction to Artificial Intelligence in Interactive Product Development

- What is artificial intelligence?
- Overview of the types of artificial intelligence
- Artificial intelligence tools such as ChatGPT
- Unity Muse AI
- Unity Sentis AI

Industry project work

## Week 11 | Shader Programming in Unity

- Shaders in HDRP
- Unity Addressables

Industry project work

## Week 12 | Recap & Industry Project Presentations

**Note:** Each week, there will be careers and/or industry project sessions in addition to personal development coaching and talks from guest speakers.

### Personal Development Sessions

- Your VIBE
- Interview mindset
- Flourish
- Aspirational teams
- What do you transmit?



# CAREERS SUPPORT TO SKILLS CITY STUDENTS

## Qualifications



Bootcamp graduation credly badge offered by Skills City on successful completion of the bootcamp

[Find out more](#)



Junior Programmer Pathway credly badge offered by Unity

[Find out more](#)



Creative Core Pathway credly badge offered by Unity

[Find out more](#)



**SKILLS CITY**

Fair Access to Technology Futures

[SKILLS-CITY.COM](https://www.skills-city.com)

## Job postings

We communicate regularly with our clients and share their job postings with our students. We also find jobs from external job posts suitable for graduates from each bootcamp pathway and at the correct level for them to secure.

## CV/application support

We ensure students' CVs are up to standard and provide feedback, support, and guidance on improving their applications. This includes reviewing their CVs and applications and providing feedback on how to tailor them to specific job opportunities.

## Interview preparation

We offer advice on researching the company and hiring manager, preparing examples using the STAR method, practising timings and answers, choosing appropriate attire, and arriving on time. We also advise how to make a positive first impression and prepare 2-3 questions to ask at the end of the interview.

## Mock interviews

Our mock interview sessions are designed to provide general interview practice and help students improve their confidence and communication skills. We also share online resources for technical interviews to help students prepare for them.

## Networking opportunities

We help students connect with potential employers when the opportunity arises.

## Personalised team calls

We arrange team calls with students who are particularly struggling and would like support or encouragement through their career change process. It is not a common occurrence, but we offer support where we can.

## Follow-up

Additionally, we follow up with students after learning they have had an interview to see how it went and if we can offer further support. We aim to empower students to succeed in their career journey while providing support on a case-by-case basis as needed.

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