



## **Module Specification**

### **Principles of 3D Environments**

Version: 2023-24, v2.0, 27 Feb 2023

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## Part 1: Information

**Module title:** Principles of 3D Environments

**Module code:** UFCFY4-30-1

**Level:** Level 4

**For implementation from:** 2023-24

**UWE credit rating:** 30

**ECTS credit rating:** 15

**Faculty:** Faculty of Environment & Technology

**Department:** FET Dept of Computer Sci & Creative Tech

**Partner institutions:** None

**Delivery locations:** Not in use for Modules

**Field:** Computer Science and Creative Technologies

**Module type:** Module

**Pre-requisites:** None

**Excluded combinations:** None

**Co-requisites:** None

**Continuing professional development:** No

**Professional, statutory or regulatory body requirements:** None

## Part 2: Description

**Overview:** The module provides an introduction to the essential principles of working in a 3D environment. Students will learn about creating and using 3D assets and environments to produce interactive experiences.

**Features:** Not applicable

**Educational aims:** This module provides students with an introduction into working in 3D environments and with 3D assets. Students are expected to produce a portfolio of work showing their 3D production skills.

**Outline syllabus:** This syllabus provides an introduction to the use and creation of 3D assets and interactive environments.

Key principles of objects and their relationships within a virtual space:

- Co-ordinate systems
- Introduction to computer modelling and the creation and management of 3D assets
- The use of texture files and techniques such as texture mapping
- The lighting of virtual objects and scenes
- Introduction to hierarchies and inheritance

Working in an interactive 3D environment:

- The differences between software used for creation of 3D assets and creation of 3D interactive experiences
- Importing and manipulating 3D asset files
- The management of hierarchies and transforms
- Understanding camera management systems within interactive environments and their relationship with the user
- Use of inputs and interactivity within the 3D environment and the implications for user experience
- Using animations in a 3D environment
- Use of programming and scripting when creating an interactive 3D experience

### **Part 3: Teaching and learning methods**

**Teaching and learning methods:** Students will learn through a combination of lectures/seminars and practical activities undertaken in a studio environment. In addition to the timetabled events, students are expected to learn independently and to carry out suggested reading and directed study beyond that covered within the sessions.

**Module Learning outcomes:** On successful completion of this module students will achieve the following learning outcomes.

**MO1** Critically select and apply techniques for the creation of interactive 3D environments, objects and relationships between assets.

**MO2** Apply interactive elements to a 3D experience and understand their effect on a user, e.g. appropriate use of inputs and cameras.

**MO3** Manage projects in a professional manner, for the design, implementation and output of interactive 3D.

**Hours to be allocated:** 300

**Contact hours:**

Independent study/self-guided study = 228 hours

Face-to-face learning = 72 hours

Total = 300

**Reading list:** The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/ufcfy4-30-1.html) via the following link <https://uwe.rl.talis.com/modules/ufcfy4-30-1.html>

## **Part 4: Assessment**

**Assessment strategy:** The summative assessment consists of a portfolio of 3D assets and interactive production work.

The students' portfolio work will be overseen during the practical sessions and through formative reviews. This allows module staff to see students' independent work and give them feedback during the development of their portfolio work.

Resitting students will resubmit work for any failed tasks.

**Assessment components:**

**Portfolio (First Sit)**

Description: Portfolio of 3D assets and interactive production work

Weighting: 100 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3

**Portfolio (Resit)**

Description: Portfolio of 3D assets and interactive production work

Weighting: 100 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3

**Part 5: Contributes towards**

This module contributes towards the following programmes of study:

Digital Media [Frenchay] BSc (Hons) 2023-24

Games Technology [Frenchay] BSc (Hons) 2023-24

Games Technology {Foundation} [Frenchay] BSc (Hons) 2022-23

Digital Media {Foundation} [Frenchay] BSc (Hons) 2022-23

Digital Media [Frenchay] BSc (Hons) 2023-24