

## MODULE DESCRIPTOR

### Module Title

3D Animation

Reference	CM3136	Version	1
Created	October 2023	SCQF Level	SCQF 9
Approved	May 2019	SCQF Points	15
Amended	July 2022	ECTS Points	7.5

### Aims of Module

To provide the student with the fundamental principles of animation and to develop and implement these principles into 3D animation.

### Learning Outcomes for Module

On completion of this module, students are expected to be able to:

- 1 Demonstrate research and visual development skills in the context of an animation concept.
- 2 Experiment with a range of key 3D modelling techniques that may be used in character modelling.
- 3 Draw on a range of fundamental 3D animation techniques.
- 4 Review the development of an animated concept, showcasing a professional approach to organisation.

### Indicative Module Content

Preparation: Pre-production, concept development, storyboarding & general workflow. 3D Modelling: Topology for animation, organic modelling, edge loops & geometry flow, poly counts, low poly vs. high poly, UV unwrap & texturing. Animation techniques: Rigging systems, skinning, key-frame, pose to pose, inverse kinematics, forward kinematics, motion capture. 3D modelling & animation tools: Use of 3D modelling software & motion capture principles, post-production export & rendering.

### Module Delivery

Key concepts are introduced and illustrated through lectures and directed reading. In the laboratories the students will progress through a sequence of exercises to develop sufficient knowledge of 3D animation techniques to enable them to complete practical design & implementation.

**Indicative Student Workload**

	Full Time	Part Time
Contact Hours	30	N/A
Non-Contact Hours	120	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	N/A
<i>Actual Placement hours for professional, statutory or regulatory body</i>		

**ASSESSMENT PLAN**

If a major/minor model is used and box is ticked, % weightings below are indicative only.

**Component 1**

Type: Coursework Weighting: 100% Outcomes Assessed: 1, 2, 3, 4

Description: This coursework involves the design, development and implementation of a 3D animation showreel.

**MODULE PERFORMANCE DESCRIPTOR****Explanatory Text**

The calculation of the overall grade for this module is based on 100% weighing of C1. An overall minimum grade D is required to pass the module.

Module Grade	Minimum Requirements to achieve Module Grade:
<b>A</b>	The student needs to achieve an A in C1.
<b>B</b>	The student needs to achieve a B in C1.
<b>C</b>	The student needs to achieve a C in C1.
<b>D</b>	The student needs to achieve a D in C1.
<b>E</b>	The student needs to achieve an E in C1.
<b>F</b>	The student needs to achieve an F in C1.
<b>NS</b>	Non-submission of work by published deadline or non-attendance for examination

**Module Requirements**

Prerequisites for Module	None.
Corequisites for module	None.
Precluded Modules	None.

**INDICATIVE BIBLIOGRAPHY**

- 1 WILLIAMS, R., 2009. The Animator's Survival Kit. Expanded Edition.
- 2 Villar, O., 2017. Learning Blender. 2nd ed. Addison-Wesley; 2nd edition (12 April 2017).
- 3 Blain, J., 2019. The Complete Guide To Blender Graphics: Computer Modeling & Animation, Fifth Edition. 5th ed. A K Peters/CRC Press; 5th edition (11 April 2019).
- 4 Baechler, O. and Greer, X., 2020. Blender 3D By Example - Second Edition. 2nd ed. [S.I.]: Packt Publishing.