Module Specification

Module Summary Information

1	Module Title	3D Game Programming
2	Module Credits	20
3	Module Level	4
4	Module Code	CMP4274

5	Module Overview

This module will complement and build upon the programming skills that you learnt in CMP4264 2D Game Programming. This time you will focus on learning the principles behind programming and developing a simple 3D computer game using a professional game engine. You will explore working with 3D scenes and cameras; implementing a range of media assets for example 3D models, meshes, 3D animations as well as sound and audio. Other topics will include using simple game based physics, collision detection, ray casting and special effects for example shaders and lighting effects. You will be taught in a workshop based setting with tutors providing support, guidance and formative advice as you develop your skills in 3D game development.

6	Indicative Content

- Working with cameras.
- Models, meshes and animations.
- Terrains and skyboxes.
- User interfaces for 3D games.
- Game effects including shaders and lighting.
- Basics of artificial intelligence.
- Augmented and virtual reality.

7	Module Learning Outcomes
	On successful completion of the module, students will be able to:
1	Present and discuss the development of a 3D game prototype.
2	Create a 3D game prototype based upon a set of requirements.
3	Present and discuss the development of a complete 3D game.
4	Create a complete 3D game based upon a set of requirements.

8	Module Assessment		
Learning Outcome			
	Coursework	**Exam**	**In-Person**
1-4			x

9	Breakdown Learning and Teaching Activities	
Learning Activities	**Hours**	
Scheduled Learning (SL) includes lectures, practical classes and workshops, peer group learning, Graduate+, as specified in timetable	48	
Directed Learning (DL) includes placements, work-based learning, external visits, on-line activity, Graduate+, peer learning, as directed on VLE	62 Moodle has a set of required pre-sessional and post-sessional activities which are required to be completed each week.	
Private Study (PS) includes preparation for exams	90 In this module guide there is a reading list which provides you with important supplementary information to class contact. Private study should also be used to complete your game.	
Total Study Hours:	200	