

Module Title:	3D Gameplay Programming
Language of Instruction:	English
Credits:	5
NFQ Level:	6
Module Delivered In	1 programme(s)
Module Aim:	Introduce learners to the skill of gameplay programming for specific genres. Students will understand how to program 3D games.
Learning Outcomes	
<i>On successful completion of this module the learner should be able to:</i>	
LO1	Problem solving techniques applied to gameplay programming and appreciation of the 3D game engine solutions
LO2	Apply trigonometry, vectors and matrices within a game title
LO3	Construct Visual Effects using Shader Language
Pre-requisite learning	
Module Recommendations	
<i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>	
No recommendations listed	
Incompatible Modules	
<i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>	
No incompatible modules listed	
Co-requisite Modules	
No Co-requisite modules listed	
Requirements	
<i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.</i>	
No requirements listed	

Module Content & Assessment

Indicative Content

Architecture of common game engines

Game engine technology and graphic api's

Mathematics for Graphics

Implementation of coordinate geometry, trigonometry and the unit circle. Vector and matrix operations applied to Game Objects. Implementation of Game Object Physics.

Game Object Assets

Integration of (assets) content pipeline

Case Study

Implementation of visual effects within a game title

Assessment Breakdown

%

Project

50.00%

Practical

50.00%

No Continuous Assessment

Project

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Project	Create 3D Game Scenes	1,2	50.00	n/a

Practical

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Practical/Skills Evaluation	Programming 3D Visual Effects	2,3	50.00	n/a

No End of Module Formal Examination

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

Module Workload

Workload: Full Time		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	12 Weeks per Stage	1.00
Laboratory	12 Weeks per Stage	3.00
Independent Learning	15 Weeks per Stage	5.13
Total Hours		125.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_KCCGD_B	Bachelor of Science (Honours) in Computer Games Development	4	Mandatory