

<b>Module Title:</b>	3D Gameplay Programming
<b>Language of Instruction:</b>	English
<b>Credits:</b>	5
<b>NFQ Level:</b>	6
<b>Module Delivered In</b>	<a href="#">1 programme(s)</a>
<b>Module Aim:</b>	Introduce learners to the skill of gameplay programming for specific genres. Students will understand how to program 3D games.
<b>Learning Outcomes</b>	
<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
<b>Pre-requisite learning</b>	
<b>Module Recommendations</b> <i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>	
No recommendations listed	
<b>Incompatible Modules</b> <i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>	
No incompatible modules listed	
<b>Co-requisite Modules</b>	
No Co-requisite modules listed	
<b>Requirements</b> <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
<b>Architecture of common game engines</b> Game engine technology and graphic api's
<b>Mathematics for Graphics</b> Implementation of coordinate geometry, trigonometry and the unit circle. Vector and matrix operations applied to Game Objects. Implementation of Game Object Physics.
<b>Game Object Assets</b> Integration of (assets) content pipeline
<b>Case Study</b> 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**

<b>Workload: Full Time</b>		
<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	<a href="#">Bachelor of Science (Honours) in Computer Games Development</a>	4	Mandatory