GRAP H1201: Computer Graphics

Module Title:	Computer Graphics
Credits:	10
NFQ Level:	6
Module Delivered In	No Programmes
Teaching & Learning Strategies:	This course is delivered using a mixture of laboratory and lectures. Approximately half of the lecture time per week is devoted to covering higher-level theoretical material, while the other half is devoted to supplementing work carried out in the laboratory. When required, some laboratory time can be delivered as interactive lecture.
Module Aim:	To introduce the theory of 2-Dimensional (2D) and 3-Dimensional (3D) Computer Graphics; To provide the practical skills necessary to implement 2D graphics on games platforms.

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	demonstrate an understanding of graphics fundamentals;
LO2	implement 2D graphics techniques using standard graphics libraries;
LO3	implement code to respond to user interaction;
LO4	create animated characters in 2D environments

Pre-requisite learning
Module Recommendations *This is prior learning (or a practical skill) that is recommended before enrolment in this module.*
No recommendations listed
Incompatible Modules *These are modules which have learning outcomes that are too similar to the learning outcomes of this module.*
No incompatible modules listed
Co-requisite Modules
No Co-requisite modules listed
Requirements *This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.*
No requirements listed

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Module Content & Assessment

Indicative Content
Overview 1. Introduction to Graphics; Devices, Elements, Raster 2. Fundamentals; Lines Coordinates, Mapping modes, Colour, Palettes, Surfaces 3. Interaction devices; Keyboard, Mouse, Joystick 4. Raster Techniques; Bitmaps, Image Processing, Transparency, AntiAliasing, Text, Procedural Content 5. Animation Fundamentals; Sprites, Buffering, Frame Rates, Backgrounds, Tweening 6. Simple Animation; Path following, Key Frames, 2D Collision Detection 7. Introduction to 3D graphics: Shading, Lighting, Fixed graphics pipeline, scene management, level of detail, texture mapping

Assessment Breakdown	%
Continuous Assessment	60.00%
End of Module Formal Examination	40.00%

Continuous Assessment

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Other	Class Exams	1,2,3,4	10.00	n/a
Other	Laboratory Participation	1,2,3,4	10.00	n/a
Other	Laboratory Assessments	1,2,3,4	40.00	n/a

No Project

No Practical

End of Module Formal Examination

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Formal Exam	No Description	1,2,3,4	40.00	End-of-Semester

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

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Module Workload

Workload: Full Time		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
Laboratory	30 Weeks per Stage	2.00
Lecture	30 Weeks per Stage	2.00
Tutorial	30 Weeks per Stage	0.50
Estimated Learner Hours	30 Weeks per Stage	2.17
	Total Hours	200.00