

Module Title:	Animation
Credits:	10
NFQ Level:	6
Module Delivered In	No Programmes
Teaching & Learning Strategies:	Students will use a 3D animation package to carry out tasks that cover all learning outcomes from LO 1 to LO 6 LO 7 will be satisfied by students undertaking research into current issues and developments in the animation industry. All learning outcomes will be reinforced by the lecture material presented in class. Note: Because 3D Animation Software like Maya and 3DS Max is extremely costly to buy and Blender is a comparable package available as an open source alternative free of charge the practicals will be done using Blender or some other free package if a better one becomes available.
Module Aim:	To provide the students with the theoretical knowledge and skills necessary to implement animation techniques on computer games platforms.

Learning Outcomes	
<i>On successful completion of this module the learner should be able to:</i>	
LO1	Understand the basic principles involved in the creation of animation
LO2	Understand and implement the processes involved in the design of animated sequences
LO3	Create and animate objects for use in animated sequences
LO4	Create the world within which they will animate objects
LO5	Develop the lighting and shading effects that give realism to their animations
LO6	Use their animated sequences within game engines

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
Introduction to Computer Animation History, Media; Graphics in Computer Animation;
Principles of Animation Anticipation, Secondary Motion, Overshoot etc;
Designing animated sequences Scripting, Storyboarding; 2D and 3D spaces;
Types of animation Key Frame, Scripting, Procedural, representational;
Interpolation motion along a curve, path following, deformations, Morphing;
Kinematics Hierarchical Models, Forward/Inverse kinematics, Constraints;
Modelling Polygon Modelling, Nurbs Modelling
Facial Animation Driven Keys, expressions
Realism Clothing, Hair
Natural Systems Particle, Flocking, Water, Gas, Motion Capture;
Other Advanced animation techniques Lighting, Shading and effects Rendering techniques and technologies Using animation in game engines

Assessment Breakdown	%
Continuous Assessment	20.00%
Practical	30.00%
End of Module Formal Examination	50.00%

Continuous Assessment				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Other	No Description		20.00	n/a

No Project

Practical				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Practical/Skills Evaluation	No Description		30.00	Sem 1 End

End of Module Formal Examination				
Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Formal Exam	No Description		50.00	Sem 1 End

ITCarlow 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	30 Weeks per Stage	2.00
Laboratory	30 Weeks per Stage	2.00
Estimated Learner Hours	30 Weeks per Stage	2.00
	Total Hours	180.00

