

Module Title	3D Modeling and Animation	School	Mathematical and Computer Sciences				On or Off-Campus	On	
Module Co-ordinator	Sandy Louchart	SCQF Level	11	Module Code	F21MA	Semester	1	Credits	15

1. Pre-requisites	None		
2. Linked Modules (specify if synoptic)	None		
3. Excluded Modules	None		
4. Replacement Module	Code:	5. Availability as an Elective	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	Date Of Replacement:		
6. Degrees for which this is a core module	Mandatory module for MSc Creative Software Systems Optional module for BSc Computer Science, BSc Information Systems, MEng Software Engineering, MSc Intelligent Systems, MSc Artificial Intelligence, MSc IT(eLearning), MSc IT (software systems)		
7. Aims	To introduce the basic concepts, techniques and skills of 3D modelling and animation		
8. Syllabus	<ul style="list-style-type: none"> ◆ 3D modelling ◆ Basic models ◆ Layering ◆ Polygon reduction ◆ Texturing ◆ Animation ◆ Overview of history and types of animation ◆ Tools and working methods ◆ 12 principles of classic animation ◆ Computer-based animation (CGI) ◆ Creating character – believability and naturalism ◆ Procedural animation: inverse and forward kinematics ◆ Speech and expressive behaviour ◆ Motion capture ◆ Behavioural animation ◆ Emotion and story 		

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9. Learning Outcomes (HWU Core Skills: Employability and Professional Career Readiness)

Subject Mastery	<i>Understanding, Knowledge and Cognitive Skills</i> <i>Scholarship, Enquiry and Research (Research-Informed Learning)</i>	
	<ul style="list-style-type: none"> ◆ Critical understanding of the history of animation and types of animation ◆ Critical understanding of the advantages and disadvantages of hand-construction, kinematics, and motion capture in animation ◆ Detailed understanding of the principles of animations. ◆ Ability to research and prototype simple animations ◆ Basic understanding of the theory of 2D and 3D transformations, projection and viewing. ◆ Detailed knowledge of 3D modeling and rendering techniques. ◆ Ability to understand, design and implement 3D models from a 3D graphic package. ◆ Practical skills in developing 3D content for different types of applications and uses. 	
Personal Abilities	<i>Industrial, Commercial & Professional Practice</i> <i>Autonomy, Accountability & Working with Others</i> <i>Communication, Numeracy & ICT</i>	
	<ul style="list-style-type: none"> ◆ Ability to think and plan in three dimensions ◆ Technical report writing and organisation ◆ Team working skills ◆ Representation of, planning for, and solution of problems 	

10. Assessment Methods

11. Re-assessment Methods

Method	Duration of Exam (if applicable)	Weighting (%)	Synoptic modules?	Method	Duration of Exam (if applicable)
Coursework		100%		Coursework (individual project)	

12. Date and Version

Date of Proposal	29/11/2007	Date of Approval by School Committee	December 2007	Date of Implementation	15/9/2008	Version Number	1
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