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Refer to guidance notes for completion of each section of the specification.

Module Code:	COM550

Module Title:	3D Modelling & Animation for Game Engines

Level:	5	Credit Value:	20

Cost Centre(s):	GACP	<u>JACS3</u> **code**: <u>HECoS</u> code:	I630 101019

Faculty	FAST	Module Leader:	Nathan Roberts

Scheduled learning and teaching hours	30 hrs
Placement tutor support	0 hrs
Supervised learning eg practical classes, workshops	0 hrs
Project supervision (level 6 projects and dissertation modules only)	0 hrs
Total contact hours	**30** hrs
Placement / work based learning	
Guided independent study	170 hrs
Module duration (total hours)	200 hrs

Programme(s) in which to be offered (not including exit awards)	Core	Option
BSc (Hons) Computer Game Development	✓	
BSc (Hons) Computer Game Design and Enterprise	✓	
BSc (Hons) Computer Game Development (with Industrial Placement)	✓	
BSc (Hons) Computer Game Design and Enterprise (with Industrial Placement)	✓	
BA (Hons) Game Art	✓	
BA (Hons) Game Art (with Industrial Placement)	✓	
Stand alone module aligned to BSc (Hons) Computer Game Development for QA and assessment purposes	✓	

Pre-requisites
None

Template updated: September 2019

Module Aims
This module will introduce the student to the design, modelling and animation techniques used in the production of 3D assets for use within computer games, simulations, immersive environments and other forms of real-time applications. This module aims to: • Introduce students to fundamental development practices in the development, management and utilisation of 3D models and animation techniques. • Provide students with knowledge of specific toolsets within industry leading applications related to the creation and modification of 3D assets. • Encourage students to develop skills that promote problem-solving abilities to overcome challenges in the creation of 3D related components and their application into different environments. • Familiarisation of design and animation practices associated to the creation of multiple model types that can be used in conjunction for the creation of scenes with greater complexity.

Module Learning Outcomes - at the end of this module, students will be able to	
1	Employ conventional 3D graphic development techniques for the creation of assets that adhere to industry standard practices.
2	Differentiate between approaches used for the production of linear (pre-rendered) and dynamic (real-time) content.
3	Identify methods that enhance assets through the implementation of multiple media resource types.

Employability Skills The Wrexham Glyndŵr Graduate	I = included in module content A = included in module assessment N/A = not applicable
CORE ATTRIBUTES	
Engaged	I/A
Creative	I/A
Enterprising	I/A
Ethical	I/A
KEY ATTITUDES	
Commitment	I/A
Curiosity	I/A
Resilient	I/A
Confidence	I/A
Adaptability	I/A
PRACTICAL SKILLSETS	
Digital fluency	I/A
Organisation	I/A
Leadership and team working	I/A
Critical thinking	I/A
Emotional intelligence	I/A
Communication	I/A

Derogations
N/A

Assessment:

Indicative Assessment Tasks:

Assessment will take form as an online reflective journal (blog) of which work will be organised to present a series of briefs chronologically. The reflective journal will serve as part of the student's personal development towards a portfolio that will also be used in conjunction with other modules.

Students will be provided a series of briefs, each one related to specific components taught in the module. Collectively these will provide a breakdown of the areas covered in class and evidenced in the reflective journal.

Early briefs will be short and designed to include tasks to substantiate student learning and provide opportunities to assess their competency. As each session progresses the briefs are adapted to encourage opportunities to apply knowledge from across the module and promote the investigation of new approaches and learning outside of the classroom. Deadlines will be fragmented and dependant on the type of brief, imposing varying time frames to evidence efficient management.

On occasions briefs will require completion as an individual or team member and provide opportunities to choose from a number of potential solutions. This has been implemented to allow students the ability to specialise in specific areas of 3D development.

Work can be assessed concurrently with progression of the module and opportunities provided for feedback as well as offering the potential for students to develop areas further. To finalise the assessment, students will be asked to attend a meeting where they will be given the opportunity to demonstrate work and discuss the processes adopted. This permits the opportunity to provide indicative grades and further feedback once the module has completed.

Indicative word count is 4000 words.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)
1	1,2,3	Portfolio	100%

Learning and Teaching Strategies:

This module is supported through a series of practical sessions that are deployed as classroom demonstrations. The module is delivered both by the tutor and through electronic learning resources; demonstrations are recorded and delivered as video tutorials for reference after.

The module is designed to introduce students to the fundamental aspects of 3D development and encourage the resolution of problematic scenarios through the application of solutions devised from knowledge acquired from class sessions; this will be applied as individuals and teams.

Each session will introduce students to a core component of 3D development and encourage application of their knowledge though a series of briefs that introduces a specific problem scenario that requires skills acquired from class sessions.

Progression will dictate the formulation of the briefs, allowing more complex scenarios as the sessions advance and incorporate the application of knowledge from previous ones. To promote the student's learning outside of the classroom each brief will provide scope to apply solutions that can be determined from additional study, found in the recommended reading and online resources associated to the module.

Syllabus outline:

• Project management techniques
• File hierarchy dependencies
• Design practices and topology
• Basic modelling approaches
• Characters development
• Environment design
• Texture application
• Media management
• Rigging and animation
• Asset optimisation
• Rendering and implementation techniques

Indicative Bibliography:

Essential reading

Murdock, K. (2017). Autodesk Maya 2018 Basics Guide. SDC Publications.

Derakshani, D. (2015) Introducing Autodesk Maya 2016, Sybex.

Other indicative reading

None