Module specification

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Module Code	COM563
Module Title	Asset Production for Game Engines
Level	5
Credit value	20
Faculty	FAST
HECoS Code	101019
Cost Code	GACP

Programmes in which module to be offered

Programme title	Is the module core or option for this programme
BSc (Hons) Computer Game Development	Core
BSc (Hons) Computer Game Development (with Industrial Placement)	Core
BSc (Hons) Computer Game Design and Enterprise	Core
BSc (Hons) Computer Game Design and Enterprise (with Industrial Placement)	Core
BA (Hons) Game Art	Core
BA (Hons) Game Art (with Industrial Placement)	Core

Pre-requisites

None.

Breakdown of module hours

Learning and teaching hours	30 hrs
Placement tutor support	0 hrs
Supervised learning e.g. practical classes, workshops	0 hrs
Project supervision (level 6 projects and dissertation modules only)	0 hrs
Total active learning and teaching hours	**30** hrs
Placement / work based learning	0 hrs

Guided independent study	170 hrs
Module duration (total hours)	200 hrs

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Initial approval date	10/05/2023
With effect from date	September 2023
Date and details of revision	
Version number	1

Module aims

This module aims to further expand the students practice with workflow techniques that are commonly used in the production of 3D assets within game engines. This is achieved by introducing further complexity with 3D workflow techniques as well as providing practical experience and analysis of developing trends within industry standard 3D workflows.

Students will be required to further explore their asset production within the contexts of game engine environments where they will be required to demonstrate an understanding of technical issues such as optimisation and industry standard workflows. Students will also be required to reflect on their progress through a compilation of their work.

Module Learning Outcomes - at the end of this module, students will be able to:

1	Distinguish technical complexities within industry standard 3D pipelines and applications.
2	Design 3D game assets which employ industry standard tools and techniques.
3	Appraise produced assets within an industry standard game engine.
4	Compile design and workflow documentation and engage in reflective practice.

Assessment

Indicative Assessment Tasks:

Coursework will take place throughout this module as a single creative workflow. As part of this workflow students will be required to produce a design documentation which evidences their creative process and workflow.

Throughout the module several milestones will be planned (indicatively, this could be a milestone every 3-4 weeks). Formative assessment will occur at each of these milestones to ensure that students get the relevant feedback as the module progresses. These assessments will be largely based on the relevant concepts, skills and design solutions required to meet that milestone.

The final assessment will evaluate the student's applied knowledge and skills in the final product which relates to industry standard workflow and techniques.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)
1	1, 2, 3, 4	Portfolio	100%

Derogations

None

Learning and Teaching Strategies

In line with the Active Learning Framework, this module will be blended digitally with both a VLE and online community. Content will be available for students to access synchronously and asynchronously and may indicatively include first and third-party tutorials and videos, supporting files, online activities any additional content that supports their learning.

As this module progresses, the strategies will change to best support a diverse learning environment. Initially, the module will start with a heavier reliance on engaging tutor-led lectures, demonstrations, and workshops to ensure that the students get the relevant threshold concepts. As the module continues experiential and peer learning strategies will be encouraged as the students' progress with their coursework. Sessions will shift to more tutorial-based sessions to focus of formative feedback for individual student achievement.

Indicative Syllabus Outline

Indicative Syllabus Outline:

- Colour systems & texturing techniques.
- Conceptualisation and Mood boarding
- 3D geometry, UV mapping and Texturing
- 3D Topology techniques and edge flow
- Baking and PBR Material workflow
- Scale, resolution and exporting assets.
- Design practices, topology, and optimisation
- Reflection and portfolio development.
- Industry standard workflow practices
- Portfolio presentation and showcasing
- Game Engine Integration

Indicative Bibliography:

Please note the essential reads and other indicative reading are subject to annual review and update. Please *ensure correct referencing format is being followed as per University Harvard Referencing Guidance.*

Essential Reads

Li, J., Arevalo, K., Tovar, M. (2021), *Creating games with Unreal Engine, Substance Painter, & Maya: Models, Textures, Animation, & Blueprint.* Boca Raton: CRC Press.

Other indicative reading

3dtotal Publishing, (2017), *Beginner's Guide to ZBrush,* Worcester: 3dtotal Publishing.

McDermott, W. (2018) The PBR Guide: A Handbook for Physically Based Rendering, Clermont-Ferrand: Allegorithmic.

Murdock, K. L. (2022), *Autodesk Maya 2023 Basics Guide,* Kansas: SDC Publications.

Romero, M.F., Sewell, B., Cataldi, L. (2022), *Blueprints visual scripting for Unreal Engine 5*, Third Edition, Birmingham: Packt Publishing.

Employability skills – the Glyndŵr Graduate

Each module and programme is designed to cover core Glyndŵr Graduate Attributes with the aim that each Graduate will leave Glyndŵr having achieved key employability skills as part of their study. The following attributes will be covered within this module either through the content or as part of the assessment. The programme is designed to cover all attributes and each module may cover different areas.

Core Attributes
Engaged
Enterprising
Creative

Key Attitudes
Commitment
Curiosity
Resilience
Confidence
Adaptability

Practical Skillsets
Digital Fluency
Organisation
Communication