Session: 2022/23
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Title of Module: Game Engine 1			
Code: COMP08079	**SCQF Level: 8** (Scottish Credit and Qualifications Framework)	**Credit Points: 20**	**ECTS: 10** (European Credit Transfer Scheme)
School:	School of Computing, Engineering and Physical Sciences		
Module Co-ordinator:	Marco Gilardi		

Summary of Module

The module fosuses on the Unity game engine and the C# programming language
to introduce students to the use of a game engine for computer games production, allowing them to fully develp their ideas from design concept to implementation.
The module discusses Unity as a game development environment, game engines architecture, how to configure the interfaces and editors, and programming using C#.
The module focusses on object oriented game programming and the use of classes, game objects and components as well as scenes.
Environment design principles, physics, animation and modelling game states using state machines are discussed.

- This module embeds the key “I am UWS” graduate attributes and in particular:
- Universal(critical and analytical thinking, Emotionally-intelligent, Collaborative, Research-minded),
- Work Ready(digitally literate, problem solver, effective communicator, Motivated, Potential leader, Ambitious)
- and Successful (Autonomous, Innovative, Driven, Transformational)

Module Delivery Method

Face-To-Face	Blended	Fully Online	HybridC	HybridO	Work-based Learning
✓	✓				

Face-To-Face
Term used to describe the traditional classroom environment where the students and the lecturer meet synchronously in the same room for the whole provision.
Blended
A mode of delivery of a module or a programme that involves online and face-to-face delivery of learning, teaching and assessment activities, student support and feedback. A programme may be considered “blended” if it includes a combination of face-to-face, online and blended modules. If an online programme has any compulsory face-to-face and campus elements it must be described as blended with clearly articulated delivery information to manage student expectations
Fully Online
Instruction that is solely delivered by web-based or internet-based technologies. This term is used to describe the previously used terms distance learning and e learning.
HybridC
Online with mandatory face-to-face learning on Campus
HybridO
Online with optional face-to-face learning on Campus
Work-based Learning
Learning activities where the main location for the learning experience is in the workplace.

Campus(es) for Module Delivery

The module will **normally** be offered on the following campuses / or by Distance/Online Learning: (Provided viable student numbers permit)						
Paisley:	Ayr:	Dumfries:	Lanarkshire:	London:	Distance/Online Learning:	Other:
✓						

Term(s) for Module Delivery					
(Provided viable student numbers permit).					
Term 1		Term 2	✓	Term 3	

Learning Outcomes: (maximum of 5 statements)
On successful completion of this module the student will be able to: L1. Demonstrate knowledge and understanding of good game design principles L2. Demonstrate ability of designing and planning an hi-fidelity game prototype L3. Demonstrate the abiliy to implement a well structured and documented hi-fidelity game prototype using an industry Game Engine

Employability Skills and Personal Development Planning (PDP) Skills		
SCQF Headings	During completion of this module, there will be an opportunity to achieve core skills in:	
Knowledge and Understanding (K and U)	SCQF Level 8. Knowledge of software issues related to programming games Understanding of object oriented game design	
Practice: Applied Knowledge and Understanding	SCQF Level 8. Application of programming constructs to produce a desired outcome in a game development environment	
Generic Cognitive skills	SCQF Level 8. Planning and problem solving in a programming context	
Communication, ICT and Numeracy Skills	SCQF Level 8. Use of a game (software) development environment Specification writing	
Autonomy, Accountability and Working with others	SCQF Level 8. Work autonomously to deliver a game product. Collaborate with other to come up with individual solutions	
Pre-requisites:	Before undertaking this module the student should have undertaken the following:	
	Module Code: COMP07027 COMP07028	**Module Title:** Introduction to Programming Intro to Games Development
	Other:	
Co-requisites	**Module Code:**	**Module Title:**

* Indicates that module descriptor is not published.

Learning and Teaching	
The module provides lectures and seminars to introduce the concepts and principles that underpin the practical element of the module. Laboratory based sessions guide students through a series of exercises allowing them to develop the technical ability in relation to the theory learned in the lectures. Exercises are presented each week which students are expected to undertake and demonstrate to show developing competence with the subject matter.	
Learning Activities During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	**Student Learning Hours** (Normally totalling 200 hours): (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture/Core Content Delivery	10
Laboratory/Practical Demonstration/Workshop	36
Independent Study	154
	200 Hours Total

****Indicative Resources: (eg. Core text, journals, internet access)**
The following materials form essential underpinning for the module content and ultimately for the learning outcomes: Unity on-line documentation Unity on-line tutorials (https://learn.unity.com/) Miles R. (2019) The C# Yellow Book. Online free edition [online] URL: http://www.csharpcourse.com/
(**N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)

Engagement Requirements
In line with the Academic Engagement Procedure, Students are defined as academically engaged if they are regularly engaged with timetabled teaching sessions, course-related learning resources including those in the Library and on the relevant learning platform, and complete assessments and submit these on time. Please refer to the Academic Engagement Procedure at the following link: Academic engagement procedure Where a module has Professional, Statutory or Regulatory Body requirements these will be listed here: Students are expected to engage with the module by regulardly attending lectures and completing labs assignments on a weekly basis.

Supplemental Information

Programme Board	Computing
Assessment Results (Pass/Fail)	No
Subject Panel	Creative Computing

Moderator	Thomas Hainey
External Examiner	N Whitton
Accreditation Details	- Updated assessment description to match assignments given in the module
Version Number	1.10

Assessment: (also refer to Assessment Outcomes Grids below)
Practical Written Assignment – game design document – 40%
Practical Coursework – Implementation of high fidelity game prototype as specified in the game design document - 60%
(N.B. (i) **Assessment Outcomes Grids** for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed. (ii) An **indicative schedule** listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Handbook.)

Assessment Outcome Grids **(Footnote A.)**

Component 1

Assessment Type (Footnote B.)	**Learning Outcome (1)**	**Learning Outcome (2)**	**Learning Outcome (3)**	**Weighting (%) of Assessment Element**	**Timetabled Contact Hours**	
Design/ Diagram/ Drawing/ Photograph/ Sketch	✓	✓		40	0	

Component 2

Assessment Type (Footnote B.)	**Learning Outcome (1)**	**Learning Outcome (2)**	**Learning Outcome (3)**	**Weighting (%) of Assessment Element**	**Timetabled Contact Hours**	
Creative output/ Audiotapes/ Videotapes/ Games/ Simulations		✓	✓	60	0	
Combined Total For All Components				100%	0 hours	

Footnotes
A. Referred to within Assessment Section above
B. Identified in the Learning Outcome Section above

Note(s):

1. More than one assessment method can be used to assess individual learning outcomes.

2. Schools are responsible for determining student contact hours. Please refer to University Policy on contact hours (extract contained within section 10 of the Module Descriptor guidance note).
   This will normally be variable across Schools, dependent on Programmes &/or Professional requirements.

Equality and Diversity
The University policies on equality and diversity will apply to this module: the content and assessment are based on the ability to communicate in English but are otherwise culture-neutral. This module is almost entirely computer based and students must be proficient computer users within a windows, icons and mouse pointer environment with the use of suitable aids where required. For students with additional support needs, an advisor from enabling support will agree the appropriate adjustments to be made, consulting with the module coordinator if necessary. Further guidance available from Student Services, School Disability Co-ordinators or the University's Equality and Diversity Co-ordinator. (N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School) UWS Equality and Diversity Policy
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