Module Descriptor

Title	Serious Games		
Session	2025/26	**Status**	Published
Code	COMP10010	**SCQF Level**	10
Credit Points	20	**ECTS (European Credit Transfer Scheme)**	10
School	**Computing, Engineering and Physical Sciences**		
Module Co-ordinator	Dr. Thomas Hainey		

Summary of Module

Serious Games has captured the interest of educationalists and industrialists as it is perceived as a potentially highly motivational approach for teaching, learning and training. Serious Games are not a new concept and have been documented since the 1970's but due to the rapid technological advancement of Computer Games Development Technology the are now easier than ever before to construct. The global Serious Game market size is expected to gain market growth in the forecast period of 2020 to 2025, with a CAGR of 10.4% in the forecast period of 2020 to 2025 and will expected to reach 5313.8 million by 2025, from 3574.7 million in 2019. Many graduates have gone on to postgraduate study in Serious Games and found employment within local Serious Games companies which are becoming more frequent and fruitful. Industrialists and educational institutions are constantly striving to enhance traditional teaching approaches with innovative solutions and Serious Games have become an area of great focus. This module will adhere to the UWS Curriculum framework by being student cantered, flexible and hybrid and providing authentic assessment by allowing learners to develop their own serious games in any subject they believe that they will be applicable within ethical boundaries. This will include documenting, designing, implementing, and packaging a serious game for use. Class sessions will cover interactive topics associated with the History of Serious Games, Design Principles, Psychology of Play, Gamification, Integrating Learning Content and Assessment.

•This module embeds the key "I am UWS" graduate attributes and in particular: Work Ready(Digitally Literate, Problem-solver, Creative, Imaginary, Resilient), Successful(Autonomous, Creative, Imaginative), Universal(Collaborative, Research-minded, Culturally aware)

•The module will be flexible and hybrid by covering all conceivable student circumstances: remote, online, on-campus. As a result class sessions will be recorded, live and optional on-campus sessions will be provided. Current games development technologies will be utilised to allow learners to develop a serious game as they have an entertainment game.

•The module will foster the enhancement of soft skills by allowing students to work as part of a team and present their serious games for peer assessment.

• The module will cover the History of Serious Games in some depth as well as Serious Games in a number of areas including: Business, Computing, Science, Mathematics, Military Applications, Biology and Geography. These will be covered from an educational and training perspective.

Module Delivery Method	On-Campus[1] ☒	Hybrid[2] ☐	Online[3] ☐	Work -Based Learning[4] ☐
Campuses for Module Delivery	☐ Ayr ☐ Dumfries	☐ Lanarkshire ☐ London ☒ Paisley	☐ Online / Distance Learning ☐ Other (specify)	

Terms for Module Delivery	Term 1	☐	Term 2	☒	Term 3	☐
Long-thin Delivery over more than one Term	Term 1 – Term 2	☐	Term 2 – Term 3	☐	Term 3 – Term 1	☐

Learning Outcomes	
L1	Produce a Design Document for a Serious Game considering learning content for a particular subject or training area.
L2	Implement the serious game in relation to learning outcomes, content and assessment.
L3	Present the serious game for peer assessment and complete interactive tests on Serious Game History.
L4	
L5	

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 10** Knowledge and understanding of current and emerging developments in serious games including the application in various contexts as well as an in depth knowledge of the History of Serious Games.
Practice: Applied Knowledge and Understanding	**SCQF 10** Be able to design and develop a prototype serious game for a selected topic.
Generic Cognitive skills	**SCQF 10**

[1] Where contact hours are synchronous/ live and take place fully on campus. Campus-based learning is focused on providing an interactive learning experience supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus contact hours will be clearly articulated to students.

[2] The module includes a combination of synchronous/ live on-campus and online learning events. These will be supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus and online contact hours will be clearly articulated to students.

[3] Where all learning is solely delivered by web-based or internet-based technologies and the participants can engage in all learning activities through these means. All required contact hours will be clearly articulated to students.

[4] Learning activities where the main location for the learning experience is in the workplace. All required contact hours, whether online or on campus, will be clearly articulated to students

	Identify and critically assess factors influencing developments in serious games and utilise this knowledge in a practical sense to design and implement a serious game.
Communication, ICT and Numeracy Skills	**SCQF 10** To ideally be part of a group presentation to effectively communicate and convey the designed and developed serious game for peer feedback.
Autonomy, Accountability and Working with Others	**SCQF 10** Autonomy, Accountability and Working with others SCQF Level 10 Work independently or as part of a team on a range of problems.

Prerequisites	**Module Code** COMP08035	**Module Title** Computer Games Design
	Other	
Co-requisites	**Module Code**	**Module Title**

Learning and Teaching	
In line with current learning and teaching principles, a 20-credit module includes 200 learning hours, normally including a minimum of 36 contact hours and maximum of 48 contact hours. The module provides a forum for the discussion of a range of issues surrounding the design and development of serious games. A range of learning situations is used from class-based activities including tutorials and lab work in which the students can apply knowledge and skills to a set of defined tasks. The module mainly uses individual work to develop individual knowledge but group discussions will also be used to develop team-work skills.	
Learning Activities During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	**Student Learning Hours** (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture / Core Content Delivery	20
Tutorial / Synchronous Support Activity	28
Independent Study	152
Please select	
Please select	
Please select	
TOTAL	

Indicative Resources
The following materials form essential underpinning for the module content and ultimately for the learning outcomes: Boyle, E.A., Hainey, T., Connolly, T.M., Gray, G., Earp, J., Ott, M., Lim, T., Ninaus, M., Ribeiro, C., & Pereira, J.A. (2016). An update to the systematic literature review of empirical evidence

of the impacts and outcomes of computer games and serious games. Computers & Education., 94, 178-192.

Connolly, T. M., Boyle, E. A., MacArthur, E., Hainey, T., & Boyle, J. M. (2012). A systematic literature review of empirical evidence on computer games and serious games. Computers & Education, 59(2), 661–686.

Hainey, T., Connolly, T. M., Stansfield, M. H., & Boyle, E. A. (2011). Evaluation of a game to teach requirements collection and analysis in software engineering at tertiary education level. Computers & Education, 56(1), 21–35.

(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)

Attendance and Engagement Requirements

In line with the Student Attendance and Engagement Procedure, Students are academically engaged if they are regularly attending and participating in timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time.

For the purposes of this module, academic engagement equates to the following:

The School of Computing, Engineering and Physical Sciences considers attendance and engagement to mean a commitment to attending, and engaging in, timetabled sessions. You will scan your attendance via the scanners each time you are on-campus and you will login to the VLE several times per week. Where you are unable to attend a timetabled learning session due to illness or other circumstance, you should notify the Programme Leader that you cannot attend. Across the School an 80% attendance threshold is set. If you fall below this, you will be referred to the Student Success Team to see how we can best support your studies.

Equality and Diversity

The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code.

Non-lab based (contact hours = 36)

Aligned with the University's commitment to equality and diversity, this module supports equality of opportunity for students from all backgrounds and learning needs. Using the VLE, material will be presented electronically in formats that allow flexible access and manipulation of content. This module complies with University regulations and guidance on inclusive learning and teaching practice. Specialist assistive equipment, support provision and adjustment to assessment practice in accordance with the University's policies and regulations.

Lab based (contact = 48)

Aligned with the University's commitment to equality and diversity, this module supports equality of opportunity for students from all backgrounds and learning needs. Using the VLE, material will be presented electronically in formats that allow flexible access and manipulation of content. This module complies with University regulations and guidance on inclusive learning and teaching practice. This module has lab-based teaching and as such you are advised to speak to the Module Co-ordinator to ensure that specialist assistive equipment, support provision and adjustment to assessment practice can be put in place, in accordance with the University's policies and regulations.

(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)

Supplemental Information

Divisional Programme Board	**Computing**
Overall Assessment Results	☐ **Pass / Fail** ☒ **Graded**
Module Eligible for Compensation	☐ **Yes** ☒ **No** **If this module is eligible for compensation, there may be cases where compensation is not permitted due to programme accreditation requirements. Please check the associated programme specification for details.**
School Assessment Board	Creative Computing
Moderator	Dr. Gavin Baxter
External Examiner	Prof Sylvester Arnab
Accreditation Details	TIGA
Module Appears in CPD catalogue	☐ **Yes** ☒ **No**
Changes / Version Number	3

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
Produce a Serious Games Design Document for a Serious Game in a particular chosen area and plan an evaluation of that game.
Assessment 2
Develop a prototype of the Serious Game utilising current Computer Games Development Technologies.
Assessment 3
Present the developed Serious Game at a class session for peer review and complete a showreel demonstration and placing it on LinkedIn for Portfolio Development.
(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 Module Handbook.)

Component 1							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Portfolio of Practical Work	☒	☐	☐	☐	☐	40	

Component 2

Assessment Type	LO1	LO2	LO3	LO4	LO5	Weighting of Assessment Element (%)	Timetabled Contact Hours
Portfolio of Practical Work	☐	☒	☐	☐	☐	40	

Component 3							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Presentation/ Showreel	☐	☐	☒	☐	☐	20	
Combined total for all components						100%	hours

Change Control

What	When	Who
Engagement and EDI Policies	24/03/2025	Thomas Hainey