Module Descriptor

Title	Games Console Programming		
Session	2025/26	**Status**	Published
Code	COMP10037	**SCQF Level**	10
Credit Points	20	**ECTS (European Credit Transfer Scheme)**	10
School	**Computing, Engineering and Physical Sciences**		
Module Co-ordinator	P Keir		

Summary of Module

This module provides a comprehensive technical coverage of modern games console platforms, including the hardware, software and development tools used in commercial environments. Students will gain a critical appreciation of the technical issues surrounding these technologies, including parallel processing, low-level programming, design techniques and optimisation strategies that are specific to fixed hardware platforms. UWS are a PlayStation® First partner, and students will use C++ to develop on a current Sony console devkit.

This module will work to develop a number of the key 'I am UWS' Graduate Attributes to make those who complete this module: Universal (Research-minded, Analytical & Critical Thinker), Work Ready (Problem-Solver & Digitally Literate), and Successful (Autonomous, Innovative & Imaginative).

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)	

[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

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	Demonstrate a critical appreciation of the hardware architectures of modern games console platforms.
L2	Apply design techniques and optimization strategies for developing games software for a modern games console platform using a low-level API.
L3	Demonstrate a critical appreciation of the differences between coding for general purpose platforms (e.g. PC) and fixed hardware platforms with limited OS services.
L4	Demonstrate critical awareness of the issues surrounding parallel processing, and its use on modern games console platforms.
L5	N/A

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** Having a critical awareness of current and future technologies used with games console platforms. Demonstrating innovation in the use of parallel processing features.
Practice: Applied Knowledge and Understanding	**SCQF 10** Ability to make informed decisions relating to selecting algorithms and technologies for use in commercial console games. Ability to critically evaluate existing algorithms in terms of their efficiency.
Generic Cognitive skills	**SCQF 10** Critically appraising information sources and academic papers, and assessing the suitability of new techniques in commercial software products.
Communication, ICT and Numeracy Skills	**SCQF 10** Ability to decompose algorithms into independent parallel tasks for execution on parallel processors.
Autonomy, Accountability and Working with Others	**SCQF 10** Exercise autonomy and initiative in the completion of set assignments for a deadline. Through group assignments, you will practise in ways that show awareness of your own and others' roles and responsibilities.

Prerequisites	**Module Code**	**Module Title**
	Other C++	
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.

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	12
Laboratory / Practical Demonstration / Workshop	36
Asynchronous Class Activity	50
Independent Study	102
Please select	
Please select	
TOTAL	200

Indicative Resources
The following materials form essential underpinning for the module content and ultimately for the learning outcomes: PlayStation® console development kits are network connected with lab development PCs. Development on these machines for each coursework requires that students work within the UWS computing labs. Technical documentation for games console platforms (e.g. PlayStation® 5, Xbox Series X/S etc.)
(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. 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	T Hainey
External Examiner	S Arnab
Accreditation Details	This module is accredited by TIGA as part of the Computer Games Development programme.
Module Appears in CPD catalogue	☐ **Yes** ☐ **No**
Changes / Version Number	2.13

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
Coursework provided as a set industry-relevant problem relating to material covered in the first three weeks of the module. The coursework requires the submission of a written report, along with a substantial piece of well-engineered graphics software; created using using C++, and libraries from the Sony PS5 SDK or a suitable game engine (as specified within each assignment specification). The coursework is set to be completed in groups. The first coursework is worth 30% of the final overall mark for the module.
Assessment 2
Coursework provided as a set industry-relevant problem relating to material covered in weeks 5 to 9 of the module. The coursework requires the submission of a written report, along with a substantial piece of well-engineered parallel software; created using using C++, and libraries from the Sony PS5 SDK or a suitable game engine (as specified within each assignment specification). The coursework is set to be completed in groups. The second coursework is worth 40% of the final overall mark for the module.
Assessment 3

- The third and final assessment is a closed-book class test, comprised of questions drawn from any topic covered during the module. The class test is worth 30% of the final overall mark for the module.
(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**
Report of practical/ field/ clinical work	☒	☒	☒	☒	☐	30	

Component 2							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Report of practical/ field/ clinical work	☒	☒	☒	☒	☐	40	

Component 3							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Class test (practical)	☐	☐	☒	☒	☐	30	1
Combined total for all components						100%	hours

Change Control

What	**When**	**Who**
Changed Module Delivery Method (back) to On-Campus. Changed Module Delivery Term from T2 to T1. Added to Autonomy, Accountability and Working with Others. Added more detail to the description of each assessment.	14/03/2025	P Keir