University of the West of Scotland

Module Descriptor

Session: 2024/25

Title of Module: Immersive Experiences Design			
Code: COMP10080	**SCQF Level: 10** (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 emergence of extended reality (XR) technologies has introduced new paradigms for work and entertainment. The adoption of XR has gone beyond games, percolating into work, marketing, and leisure. Being able to design XR experiences has become a skill that is being looked after in many job settings (from engineering, to cultural heritage, including computer games).

This module will teach students how to design XR experiences, and develop paper and low fidelity prototypes for them. Students will learn the principles of design for XR and the issues related to these technologies, moreover, students will learn how to use paper prototyping, wireframing, and low fidelity prototyping for XR to ensure that needs, requirements and limitations of a project are met.

After this module students will be able to design and prototype immersive experiences using XR that can be used for computer games, industry and education.

The module will introduce the following concepts:

- Fundamental principles of human centred design for XR
- Planning and designing using Imagineering
- Wireframing and paper prototyping for XR
- Low-fidelity prototyping for XR
- Introduction to 3D user interfaces

- Introduce students to new technologies that are influencing computer games development, visualisation of data, cultural experiences, and communication of information in general

- Give students design and prototyping experience with Virtual Reality, Augmented Reality and Mixed Reality using different technologies

- Make students reflect on the thinning of the gap between virtual worlds and real worlds and exploit it for innovation

- This module embeds the key “I am UWS” graduate attributes and in particular: Universal, Work Ready and Successful. Attributes covered in this module are: Academic Universal (Critical Thinker, Analytical, Inquiring) Work Ready (Knowledgeable, Digitally Literate, Problem-solver) Successful (Autonomous, Innovative) Personal Universal (Ethically-minded, Culturally aware) Work Ready (Effective communicator, Motivated) Successful (Creative, Imaginative, Resilient) Professional Universal (Collaborative, Research-minded) Work Ready (Enterprising, Ambitious) Successful (Driven, Daring, Transformational)

Module Delivery Method					
Face-To-Face	**Blended**	**Fully Online**	**HybridC**	**Hybrid 0**	**Work-Based Learning**
☒	☐	☐	☐	☐	☐
See Guidance Note for details.					

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) (tick as appropriate)						
Paisley:	Ayr:	Dumfries:	Lanarkshire:	London:	Distance/Online Learning:	Other:
☒	☐	☐	☐	☐	☐	Add name

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

Learning Outcomes: (maximum of 5 statements) **These should take cognisance of the SCQF level descriptors and be at the appropriate level for the module.** At the end of this module the student will be able to:	
L1	Apply the principles of HCI to the context of immersive experiences design
L2	Be able to design an immersive experience
L3	Be able to wireframe, paper prototype, and low-fi prototype using XR an immersive experience
L4	Explain the principles and issues related to Virtual Reality and Augmented Reality technologies

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 **10** Demonstrate and/or work with: Knowledge in the issues pertaining the use of immersive technologies for entertainment, visualisation and communication. A critical understanding of the principal theories, concepts and principles that regulate the design of immersive experiences using immersive technologies. Detailed knowledge and understanding in immersive experience prototyping. Knowledge and understanding of the ways in which immersive experiences are designed and prototyped, including a range of established techniques of enquiry and research methodologies.
Practice: Applied Knowledge and Understanding	SCQF Level **10** Use a wide range of practical professional skills, techniques, and materials associated with immersive experiences. Use skills, techniques, practices and materials that are specialised and at the forefront of a immersive experiences design. Executing a defined project of research and design identifying and prototyping relevant outcomes. To practise in a range of professional level contexts that include a degree of unpredictability and specialism.
Generic Cognitive skills	SCQF Level **10** Critically identify, define, conceptualise and analyse complex professional problems and issues. Offer professional insights, interpretations and solutions to problems and issues.

	Demonstrate some originality and creativity in dealing with professional issues. Critically review and consolidate knowledge, skills, practices and thinking in immersive experiences design. Make judgements where data and information is limited or comes from a range of sources	
Communication, ICT and Numeracy Skills	SCQF Level **10** Present or convey, formally and informally, information about specialised topics to informed audiences. Communicate with peers, senior colleagues and specialists on a professional level.	
Autonomy, Accountability and Working with others	SCQF Level **10** Exercise autonomy and initiative in professional/equivalent activities. Exercise significant managerial responsibility for a range of resources. Practise in ways that show awareness of own and others' roles and responsibilities. Work with others to bring about change, development and/or new thinking. Manage complex ethical and professional issues in accordance with current professional and/or ethical codes or practices. Recognise the limits of these codes and seek guidance where appropriate	
Pre-requisites:	Before undertaking this module the student should have undertaken the following:	
	Module Code:	**Module Title:**
	Other:	
Co-requisites	**Module Code:**	**Module Title:**

*Indicates that module descriptor is not published.

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** (Normally totalling 200 hours): (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture/Core Content Delivery	7
Laboratory/Practical Demonstration/Workshop	14
Tutorial/Synchronous Support Activity	27
Independent Study	152
	Hours Total 200

****Indicative Resources: (eg. Core text, journals, internet access)**

The following materials form essential underpinning for the module content and ultimately for the learning outcomes:

Wu, D., Pham, L., Kess, J., Petryaevskaya, I. (2024) Spatial Design. XReality Pro

Jason Jerald (2015) The VR Book: Human-Centered Design for Virtual Reality. ACM Books

LaViola J. J. Jr, Kruijff E., McMahan R. P., Bowman, D. A., Poupyrev I. (2017) 3D User Interfaces. Addison-Wesley

Bucher J. (2021) Storytelling for Virtual Reality: Methods and Principles for Crafting Immersive Narratives. Routledge

Hillmann C. (2021) UX for XR: User Experience Design and Strategies for Immersive Technologies. Apress

Please ensure the list is kept short and current. Essential resources should be included, broader resources should be kept for module handbooks / Aula VLE.

Resources should be listed in Right Harvard referencing style or agreed professional body deviation and in alphabetical order.

(**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: • Attend the in-person lectures and laboratories regularly • Complete the required activities during the lectures and laboratories • Submitting the required coursework on time

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.
(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
Assessment Results (Pass/Fail)	Yes ☐ No ☒
School Assessment Board	Creative Computing
Moderator	Soheeb Khan
External Examiner	Nicola Witton
Accreditation Details	TIGA
Changes/Version Number	1.08

Assessment: (also refer to Assessment Outcomes Grids below)
This section should make transparent what assessment categories form part of this module (stating what % contributes to the final mark). Maximum of 3 main assessment categories can be identified (which may comprise smaller elements of assessment). **NB: The 30% aggregate regulation (Reg. 3.9) (40% for PG) for each main category must be taken into account. When using PSMD, if all assessments are recorded in the one box, only one assessment grid will show and the 30% (40% at PG) aggregate regulation will not stand. For the aggregate regulation to stand, each component of assessment must be captured in a separate box.** Please provide brief information about the overall approach to assessment that is taken within the module. In order to be flexible with assessment delivery, be brief, but do state assessment type (e.g. written assignment rather than "essay" / presentation, etc) and keep the detail for the module handbook. Click or tap here to enter text. The assessment for this module will be group work. The assessment has two components: 1 Class Test (40% of the total mark) 2 Design and Prototype an Immersive Experience (60% of the mark)
Assessment 1 – Class Test – 40%
Assessment 2 – Design/ Diagram/ Drawing/ Photograph/ Sketch – produce an XR design document and accompanying paper and low fidelity prototypes - 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 Module Handbook.)

Assessment Outcome Grids (See Guidance Note)

Component 1							
Assessment Type (Footnote B.)	**Learning Outcome (1)**	**Learning Outcome (2)**	**Learning Outcome (3)**	**Learning Outcome (4)**	**Learning Outcome (5)**	**Weighting (%) of Assessment Element**	**Timetabled Contact Hours**
Class Test				X		40	2

Component 2							
Assessment Type (Footnote B.)	**Learning Outcome (1)**	**Learning Outcome (2)**	**Learning Outcome (3)**	**Learning Outcome (4)**	**Learning Outcome (5)**	**Weighting (%) of Assessment Element**	**Timetabled Contact Hours**
Design/ Diagram/ Drawing/ Photograph / Sketch	X	X	X			60	0

Component 3							
Assessment Type (Footnote B.)	**Learning Outcome (1)**	**Learning Outcome (2)**	**Learning Outcome (3)**	**Learning Outcome (4)**	**Learning Outcome (5)**	**Weighting (%) of Assessment Element**	**Timetabled Contact Hours**
Combined Total for All Components						**100%**	**2 hours**

Change Control:

What	When	Who
Further guidance on aggregate regulation and application when completing template	16/01/2020	H McLean
Updated contact hours	14/09/21	H McLean
Updated Student Attendance and Engagement Procedure	19/10/2023	C Winter
Updated UWS Equality, Diversity and Human Rights Code	19/10/2023	C Winter
Guidance Note 23-24 provided	12/12/23	D Taylor
General housekeeping to text across sections. .	12/12/23	D Taylor

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