MODULE DESCRIPTOR

Module Title

Immersive Technology

Reference	CM4124	Version	4
Created	September 2023	SCQF Level	SCQF 10
Approved	May 2019	SCQF Points	15
Amended	April 2024	ECTS Points	7.5

Aims of Module

To provide the student with the fundamental theories and principles of Immersive Technology, while developing an understanding of appropriate methodologies to design and develop an implementation using these technologies.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Communicate a theoretical understanding of immersive technologies.
2	Develop solutions using a number of different software packages and libraries for applications of immersive technology.
3	Operate virtual environment design by using appropriate techniques.
4	Question new and upcoming technologies related to immersive technology.
5	Test the design of user interactions for immersive technology.

Indicative Module Content

Introduction to Virtual Reality, Augmented Reality and Mixed Reality technologies; Graphic Design for VR, AR and MR; Applications of VR, AR and MR, Unity programming; WebVR; Mobile AR design and development; VR gaming & user interactions.

Module Delivery

Key concepts are introduced and illustrated through lectures, workshops and directed reading. In the laboratories the students will progress through a sequence of exercises to develop sufficient knowledge of Unity programming and other applications such as ARCore, WebGL library, Autodesk products etc. to enable them to complete the practical design & implementation.

Indicative Student Workload	Full Time	Part Time
Contact Hours	30	N/A
Non-Contact Hours	120	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	N/A
Actual Placement hours for professional, statutory or regulatory body		

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type:	Coursework	Weighting:	100%	Outcomes Assessed:	1, 2, 3, 4, 5
Description:	Design, implement and test an Immersive Technology application.				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

The calculation of the overall grade for this module is based on 100% weighing of C1. An overall minimum grade D is required to pass the module.

Module Grade	Minimum Requirements to achieve Module Grade:
A	The student needs to achieve an A in C1
B	The student needs to achieve a B in C1
C	The student needs to achieve a C in C1
D	The student needs to achieve a D in C1
E	The student needs to achieve an E in C1
F	The student needs to achieve an F in C1
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	None.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

1 Steve Aukstakalnis, 2016. Practical Augmented Reality, a Guide to the Technologies, applications, and Human Factors for AR and VR;

2 Erin Pangilinan etc. 2019. Creating Augmented and Virtual Realities: Theory & Practice for Next ? Generation Spatial Computing;

3 Virtual Reality Journal, by Springer. https://www.springer.com/computer/image+processing/journal/10055

4 Tony Parisi, 2015. Learning Virtual Reality: Developing Immersive Experiences and Applications for Desktop, Web and Mobile;

5 Dieter Schmalstieg, 2016. Augmented Reality, Principles and Practice.