Module Title:	Mathematics
Language of Instruction:	English

Credits:	10

NFQ Level:	6

Module Delivered In	No Programmes

Teaching & Learning Strategies:	A mixture of traditional lectures, problem solving tutorials and laboratory work

Module Aim:	To provide the student with a competence and understanding of the fundamental mathematics required to function in the field of Interactive Digital Media Design.

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	select and employ appropriate techniques to explore and solve problems in 2d and 3d geometry
LO2	choose and implement suitable techniques to explore and solve problems in linear algebra
LO3	organise, analyse and compare data sets
LO4	identify functions and their graphs
LO5	present clear and focused communications to sumarise the outcomes and outputs arising from analysis and problem solving.

Pre-requisite learning	
Module Recommendations *This is prior learning (or a practical skill) that is recommended before enrolment in this module.*	
No recommendations listed	
Incompatible Modules *These are modules which have learning outcomes that are too similar to the learning outcomes of this module.*	
No incompatible modules listed	
Co-requisite Modules	
No Co-requisite modules listed	
Requirements *This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.*	
Minimum H7 or O4 in the Leaving Certificate or equivalent	

Module Content & Assessment

Indicative Content
Review of Trigonometry angles, ratios, solving triangles
Matrices matrix descriptions, matrix operations, determinant and inverses
Vectors vector representations, vector arithmetic, scalar product, vector product, unit vector, angles between vectors.
Linear Transformations Matrix representations of transformations such as projections, rotations, and translations, composite transformations of geometric objects.
Geometry in 2d and in 3d equation for a line, equation for a plane, perpendicular distance from a point, angles between lines and planes, aspect ratios, resolutions
Data Presentation and Summarisation data types, collecting and organising data, measures of centre and measures of spread, various charts and diagrams for summarising and comparing data distributions, analysing paired data for correlation, using linear regression to interpolate.
Functions and their graphs Identification and plotting of different categories of functions, easing functions.

Assessment Breakdown	%
Continuous Assessment	20.00%
Practical	30.00%
End of Module Formal Examination	50.00%

Continuous Assessment				
Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Examination	30 minute test early on in the year in order to gauge student performance in a timely fashion	1,5	6.00	Week 6
Examination	40 minute closed book exam in the style to be experienced in the end of module examination	1,2,5	7.00	Week 13
Examination	40 minute closed book exam in the style to be experienced in the end of module examination	1,2,3,4,5	7.00	Week 22

No Project

Practical				
Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Practical/Skills Evaluation	students given tasks which involve implementing in computer code the concepts and skills encountered	1,2,3,4,5	30.00	Every Week

End of Module Formal Examination				
Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Formal Exam	Closed book examination based on all learning outcomes	1,2,3,4,5	50.00	End-of-Semester

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

Module Workload

Workload: Full Time		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
Lecture	Every Week	2.00
Practicals	Every Week	2.00
Independent Learning Time	Every Week	2.00
Tutorial	Every Week	1.00
	Total Hours	7.00

Discussion Note:	TEST