

Module code: MOD006100	Version: 1 Date Amended: 29/Nov/2017
1. Module Title	
Game Engine Technology: Systems Modelling	
2a. Module Leader	
GARY BUNN	
2b. School	
Cambridge School of the Creative Industries	
2c. Faculty	
Faculty of Arts, Humanities and Social Sciences	
3a. Level	
5	
3b. Module Type	
Standard (fine graded)	
4a. Credits	
30	
4b. Study Hours	
300	

5. Restrictions			
Type	Module Code	Module Name	Condition
Pre-requisite:	MOD003215	Introduction to Game Engine Technology	Compulsory
Pre-requisite:	MOD006102	Software Development for Games	Compulsory
Co-requisites:	None		
Exclusions:	None		
Courses to which this module is restricted:	U0198FCAM01 Computer Gaming Technology BSc FT U0817SCAM01 Computer Gaming Technology (with placement) BSc SW U0163FCAM01 Computer Gaming Technology (extended) BSc -FT		

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description
<p>The video games industry utilises different development environments to create interactive video games and immersive experiences. These environments are often complex and contain many elements, sections and mechanisms which enable the user to model the game (or real) world systems and develop their intended artefact.</p> <p>More importantly, different development environments are constructed using concepts such as: Camera, Actor, Pawn, Game and Player State/mode in a variety of ways. It is therefore imperative to amass a working knowledge of a number of development platforms (engines) and critically evaluate them for strengths and weaknesses in order to gain a breadth and in depth knowledge in the field of game development.</p> <p>This module will complement previously taught modules and seek to provide a working knowledge of an additional industry standard game development platform to expand students' basic knowledge. This will be achieved through first-hand experience of typical tools and techniques to work effectively within the game engine selected. These skills will continue to build up students' abilities, making sure they are transferable across a range of technologies serving as a strong foundation for future employment in the field.</p> <p>In most games, visual representation of game entities need to be modelled in addition to mechanics and rules systems. 3D Modelling and Animation concepts, tools and techniques will form part of the material in this module in order to give students a much needed appreciation and common language with games artists who form an integral part in the long chain of video games production.</p> <p>The module's assessment will be based on taught game development principles, best practices for the selected game engine and tools for 3D modelling and animation, all culminating in the production of a game artefact and a short report detailing the process.</p>

6b. Outline Content

- Operating the main functionality of a commercial game engine not previously taught;
 - Interface;
 - Level Design & Assembly;
 - Implementation of Game Mechanics;
 - Cameras, Perspectives and Lighting;
 - Compulsion loops;
 - 3D asset design;
- Continue to build up students' transferable skills of game engines;
 - Game development life cycle
- Planning and developing a brief within a commercial game engine;
- Explore elements of a game engine which are utilised to collaborate with other developers.

6c. Key Texts/Literature

The reading list to support this module is available at: <http://readinglists.anglia.ac.uk/modules/mod006100>

6d. Specialist Learning Resources

Students will have access to a specialist game development lab, with the latest industry standard game development tools such as (game engine, graphics packages and suitable hardware). Students will also have access to a video and audio recording facilities and a range of electronic interface devices for use with the game engines. This is in addition to access to the internet and Anglia Ruskin University LMS.

7. Learning Outcomes (threshold standards)

No.	Type	On successful completion of this module the student will be expected to be able to:
1	Knowledge and Understanding	Identify and evaluate advanced features and technical architecture of commercial game engines as well as evaluate the importance of those features against specified requirements.
2	Knowledge and Understanding	Critically appraise modelling techniques and approaches to virtual and game system models.
3	Intellectual, practical, affective and transferrable skills	Demonstrate implementation of a specific game design within a commercial game engine.
4	Intellectual, practical, affective and transferrable skills	Access and operate a wide range of features within a commercial game engine to model systems and mechanics.
5	Intellectual, practical, affective and transferrable skills	Analyse and implement a design within a specified commercial game engine

8a. Module Occurrence to which this MDF Refers				
Year	Occurrence	Period	Location	Mode of Delivery
2018/9	ZZF	Template For Face To Face Learning Delivery		Face to Face

8b. Learning Activities for the above Module Occurrence			
Learning Activities	Hours	Learning Outcomes	Details of Duration, frequency and other comments
Lectures	24	1-3	2hrs Lecture x 12 weeks
Other teacher managed learning	24	4,5	2hrs Practical laboratory session x 12 weeks
Student managed learning	252	1-5	Self-directed learning
TOTAL:	300		

9. Assessment for the above Module Occurrence					
Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
010	Coursework	1-5	100 (%)	Fine Grade	30 (%)
A substantial game artefact, equivalent to 5000 words and a short report equivalent to 1000 words.					

**In order to pass this module, students are required to achieve an overall mark of 40%.
In addition, students are required to:**

(a) achieve the qualifying mark for each element of fine graded assessment of as specified above

(b) pass any pass/fail elements