STUDENT AND ACADEMIC SERVICES

MODULE SPECIFICATION

Part 1: Information			
Module Title	Gameplay Programming		
Module Code	UFCF7M-30-2	Level	Level 5
For implementation from	2019-20		
UWE Credit Rating	30	ECTS Credit Rating	15
Faculty	Faculty of Environment & Technology	Field	Computer Science and Creative Technologies
Department	FET Dept of Computer Sci & Creative Tech		
Module type:	Standard		
Pre-requisites	Principles of 3D Environments 2019-20		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description

Overview: The role of a gameplay programmer is to write and control the code which directly creates the user's game experience. In this way the programmer is responsible for the actual game rather than the engine or tools. This common professional hybrid role demands significant technical, software engineering and game design skills.

Educational Aims: This module will develop students to confidently build game features, gameplay, mechanics, entities and systems which combine to create a desired user experience in fast paced changing team working environments.

Outline Syllabus: The aim of this module is to build on students existing computer games design and technical programming skills by:
Examining existing game features and deconstructing them into algorithms and patterns.
Assess and implement existing gameplay patterns with particular reference to concepts such as engagement, motivation, feel, balance and polish
Experiencing the activity of game programming, including game system implementation and gameplay implementation
Studying existing technical approaches and solutions and current industry trends
Implementing their own versions of existing game features and iteratively developing those features further
Build a substantial portion of a game integrating multiple gameplay systems

Teaching and Learning Methods: Teaching and Learning Methods:
Lectures Covering Gameplay Programming Concepts
Tutorial Worksheets to support learning new techniques
Studio sessions for implementing gameplay features

Part 3: Assessment

Assessment is split into two parts, ongoing portfolio development of gameplay features and final project combining a wide variety of gameplay features into a single playable game level/demo with a technical report.

Gameplay Programming Portfolio: For this portfolio, students will implement of a variety of individual gameplay features using existing engine(s)/framework(s) following current industry trends. They will be assessed on quality (functionality, feel & polish) and appropriate implementation techniques.

Gameplay Integration Project: From a brief, students will be required to create a playable level/demo integrating extended variations of the gameplay features from their gameplay portfolio. They will be assessed on quality, adherence to brief as well as creative innovation, their technical approach, their development decisions and what further improvements are possible.

Technical Feature Report: Students are required to write a technical report detailing a significant gameplay feature from their Game Project. The report should be structured to be read by different (fictional) development team members e.g. tester, level designer, lead programmer, producer etc. It should contain sections such as a non-technical description of the gameplay feature as implemented, a formal diagramming technique describing the behaviour, detailed instructions for integration and tweaking the gameplay and the relationships between this feature and any others within the wider gameplay systems.

Formative feedback on the Gameplay Programming Portfolio and Gameplay Integration Project will be offered throughout the module during the practical sessions. These recorded interactions will provide the controlled conditions for this module.

First Sit Components	**Final Assessment**	**Element weighting**	**Description**
Report - Component B		25 %	Technical feature report (indicative: 1500 words)
Project - Component A	✓	30 %	Gameplay integration project (in-class demo and question - 10 minutes)
Portfolio - Component A		45 %	Gameplay programming portfolio
Resit Components	**Final Assessment**	**Element weighting**	**Description**
Report - Component B		25 %	Technical feature report (indicative: 1500 words)
Project - Component A	✓	30 %	Gameplay integration project (in-class demo and queations - 10 minutes)
Portfolio - Component A		45 %	Gameplay programming portfolio

Part 4: Teaching and Learning Methods

Learning Outcomes

On successful completion of this module students will achieve the following learning outcomes:

Module Learning Outcomes	Reference
Write code demonstrating an understanding of the mathematics, data-structures, software engineering principles underlying gameplay features	MO1
Implement via programming a variety of gameplay features. Such as Camera, Controls, Characters, Enemies, Loops, Economics, and Motivational Techniques from historical and current games	MO2
Examine alternative techniques and assess their appropriateness for implementing given gameplay features in different contexts	MO3
Examine existing techniques and understand the challenges when integrating them into running games. Consider approaches to alleviate these challenges	MO4
Combine multiple technical approaches together to build polished gameplay	MO5
Apply iterative development process within a gameplay programming context to build complex systems with both specific and undefined end goals.	MO6
Use appropriate industry best practices for the programming of gameplay systems	MO7
Understand the position gameplay programmer occupies within the wider team	MO8

Contact Hours

Independent Study Hours:	
Independent study/self-guided study	228
Total Independent Study Hours:	228
Scheduled Learning and Teaching Hours:	
Face-to-face learning	72
Total Scheduled Learning and Teaching Hours:	72
Hours to be allocated	300
Allocated Hours	300

Reading List

The reading list for this module can be accessed via the following link:

https://uwe.rl.talis.com/modules/ufcf7m-30-2.html

Part 5: Contributes Towards

This module contributes towards the following programmes of study:

Games Technology [Sep][SW][Frenchay][4yrs] BSc (Hons) 2018-19

Games Technology [Sep][FT][Frenchay][3yrs] BSc (Hons) 2018-19