Module Title **Game Development On The iPhone** **Keywords** Object Oriented Programming, Mac Os X, iPhone, Objective-C, Cocoa Touch, Graphical User Interfaces, 2D/3D Graphics, Open GLES	Reference CM4021 SCQF Level SCQF 10 SCQF Points 15 ECTS Points 7.5 Created March 2010 Approved August 2010 Amended Version No. 1

This Version is No Longer Current

The latest version of this module is available

Prerequisites for Module

The student should have previous experience of using an object oriented programming language and/or graphical design module. This could be evidenced by CM2015, CM3008, CM3063, CM3065, CM4044 or CM3057 or equivalents.

Corequisite Modules

None.

Precluded Modules

None.

Aims of Module

To extend the student's knowledge and proficiency in object oriented programming and graphical

Indicative Student Workload

Contact Hours	Full Time
Assessment	12
Laboratories	24
Lectures	24
Directed Study	
Coursework preparation	36
Private Study	
Private study	54

Mode of Delivery

Key concepts and ideas are introduced in lectures. In the lab sessions, the students will develop and implement practical aspects of iPhone/iPod game development. The labs will involve use of existing IDE and GUI tools for the development, deployment and

design in a Mac OS X environment. To become proficient in developing a 2D/3D game application that takes advantage of the Cocoa Touch framework and enables touch and motion control of a GUI game.

Learning Outcomes for Module

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

1. Use the facilities available in the iPhone SDK for the development of a graphics application in conjunction with games design techniques to develop a touch and motion controlled game on the iPhone Touch.
2. Design, code and implement realistic 2D/3D graphics, for scene development and sprite animation, using blending and texturing techniques within a 3D graphics tool.
3. Employ game optimization and compression techniques, in conjunction with a game engine, to create an iPhone game.
4. Design, implement, test and document the overall touch and/or motion controlled game.

Indicative Module Content

Overview of Core Animation Framework, Core Graphics, UIKit Graphics, Quartz 2D, Core

testing of game applications.

Assessment Plan

	Learning Outcomes Assessed
Component 1	1,2,3,4

Component 1-Coursework

Indicative Bibliography

1. Novak, J. (2011). Game Development Essentials : An Introduction. Delmar Cengage Learning. 978-0672337512
2. Nystorm, Robert (2014). Game Programming Patterns. Genever Benning. 978-0990582908
3. Tristem, B & Geig, M. (2015). Unity Development in 24 Hours. SAMS. 978-0672337512
4. Wolf, M. * Perron, B. (2015). The Video Game Theory Reader. Routledge. 978-0415965798

Animation and OpenGL graphics. Use of development/debugging and performance tools within a Mac OS X to improve program design. Exploit the features of the iPhone environment, eg. Accelerometer, in game design. Game engine overview. Game User Interface Design and creation of an OpenGL ES project. Game Optimization and Compression techniques. Sprite animation. Blending and texturing.